

Executive Summaries from the NIST OWM Analysis of the 2024 NCWM Specifications and Tolerances (S&T) Interim Meeting Agenda

The NIST OWM Executive Summary is extracted from the NIST OWM Analysis. This provides the NIST OWM community with high level points that summarize the technical aspects and recommendations for the Item Under Consideration. The full NIST OWM Analysis can be viewed at <https://www.nist.gov/pml/owm/publications/owm-technical-analysis>. NIST OWM offers these comments and recommendations based upon information and input available as of the date of this report.

Language 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*.

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Subject Series List for the Specifications and Tolerances Committee

Handbook 44 – General Code.....	GEN Series
Scales.....	SCL Series
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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
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Vehicle Tanks Used as Measures	VTU Series
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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
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SCL – Scales

NIST OWM Executive Summary for SCL-24.1 – S.1.7. Capacity Indication, Weight Ranges, and Unit Weights

NIST OWM Recommendation: Withdrawn

- It is unclear what problem the submitter is trying to solve. It appears that the submitter misinterpreted the term “computing scale”. A computing scale is defined as: “One that indicates the money values of amounts of commodity weighed, at predetermined unit prices, throughout all or part of the weighing range of the scale.”
- The term “electronic” was included to differentiate between analog computing scales, e.g., drum or fan type scales, from scales that display weight values in an electronic digital format.
- OWM believes the proposed change is ambiguous and would cause more confusion than the terms used in the current language.

NIST OWM Executive Summary for SCL-24.2. – Multiple Sections Regarding Tare

NIST OWM Recommendation: Developing/Assigned

- NIST OWM recognizes the issues raised by the submitter and is of the opinion that the proposed amendments help solve these issues. However, as the submitter already indicated, the item is not yet fully developed. NIST OWM supports further development of the item, either by the submitter or by a task group.

NIST OWM Executive Summary for SCL-22.3 – Single-Draft Vehicle Weighing and UR.3.4. Axle and Axle Group Weight Values.

NIST OWM Recommendation: Voting, with the recommended edits as indicated below.

- The adoption of GEN-22.1 in 2022, which amended paragraph G-A.1. Commercial and Law-Enforcement Equipment of NIST Handbook 44 clarifying that weighing and measuring equipment used for the purpose of providing a weight or measure for a fee constitutes commercial use of that equipment, necessitated this proposal.
- The WWMA & NEWMA regions had concerns with “split-weighing”:
 - SCL-22.1 was adopted at the 2023 NCWM Annual Meeting and adds paragraph S.1.15. to NIST Handbook 44 requiring the recorded value be identified as “Not-Legal-For-Trade” when not all weights value were determined simultaneously (split-weighed).
 - Paragraph UR.3.3. will still require a vehicle or vehicle combination to be weighed “commercially” as a single draft except as noted in subparts (a) and (b) of the paragraph.
 - The “Note” in UR.3.3. currently exempts highway-law-enforcement scales and scales used for the collection of statistical data from having to weigh in single drafts. This item would

NIST OWM Executive Summary for SCL-22.3 – Single-Draft Vehicle Weighing and UR.3.4. Axle and Axle Group Weight Values.

add another exemption to this paragraph for scales used to weigh axle loads, axle-group loads, and the gross weight of vehicles and coupled-vehicle combinations **for a fee**, when those values are **only** used “to determine compliance with highway legal load limits and safe distribution of the load”.

- SCL-22.3 also adds a new paragraph, UR.3.4. which clarifies that it is acceptable to use multi-platform vehicle scale systems to charge a fee for the commercial service of providing customers (usually truckers) axle weights, axle group weights, and the gross weight of their vehicles to enable them to determine compliance with state and federal legal load limits.
 - In addition, this new UR.3.4. paragraph clarifies how these weights must be obtained to be used as commercial values, i.e., the summed total of a vehicle that is “split-weighed” cannot be used as the basis for a commercial transaction.
- OWM proposed amendments to this item in May 2023 based on feedback received from the SMA during and after the 2023 NCWM Interim Meeting and requested that the Committee replace the current proposal in SCL-22.3. The item under consideration reflects these amendments.
- OWM suggests the following minor edits:
 - Remove the word “axle-“ throughout the item and replace it with “axle load” instead of “axle-“ not including the term “axle-group loads”.
 - Add the word “established” between the words “with” and “highway” in the last paragraph of UR.3.3., formerly the “Note”.
 - Remove the “s” from “subparts” in the last paragraph of UR.3.4.
 - Add the amended date to paragraph UR.3.3. and the added date to UR.3.4.
 - The item would then appear as this:

UR.3.3. Single-Draft Vehicle Weighing. – A vehicle or a coupled-vehicle combination shall be commercially weighed on a vehicle scale only as a single draft. That is, the total weight of such a vehicle or combination shall not be determined by adding together the results obtained by separately and not simultaneously weighing each end of such vehicle or individual elements of such coupled combination. However, the weight of:

- (a) a coupled combination may be determined by uncoupling the various elements (tractor, semitrailer, trailer), weighing each unit separately as a single draft, and adding together the results; or

NIST OWM Executive Summary for SCL-22.3 – Single-Draft Vehicle Weighing and UR.3.4. Axle and Axle Group Weight Values.

(b) a vehicle or coupled-vehicle combination may be determined by adding together the weights obtained while all individual elements are resting simultaneously on more than one scale platform.

Note: This paragraph does not apply to highway-law-enforcement scales, **and** scales used for the collection of statistical data, **or scales used to charge a fee for the service of providing weights of the different axle loads, axle-group loads, and total weight of vehicles and coupled-vehicle combinations when the only use of those values is to determine compliance with established highway legal load limits and safe distribution of the load.**

(Added 1992) (**Amended 20XX**)

And

UR.3.4. Weighing of Axle Loads and Axle-Group Loads – Establishing weight values for the different individual axle loads and axle-group loads of a vehicle or coupled-vehicle combination is oftentimes necessary to verify compliance with established highway weight requirements and safe distribution of the load. When a fee is charged for this service, the scale’s application is considered “commercial” under the provisions of paragraph G-A.1. Commercial and Law Enforcement Equipment and the scale shall comply with all applicable NIST Handbook 44 requirements for commercial weighing systems.

When weight values for axle loads and/or axle-group loads are obtained using multiple-independent platform vehicle scale systems in which all parts of the vehicle or coupled-vehicle combination being weighed are simultaneously positioned on live elements of the scale, the values for the different axle loads and axle-group loads may be summed to establish the legal gross vehicle weight.

In no case, however, shall a summed result of the different axle loads and axle-group loads of a vehicle or coupled vehicle combination weighed in multiple drafts be used as the legal gross weight unless subpart (a) or (b) of paragraph UR.3.3. Single-Draft Vehicle Weighing is met.

(Added 20XX)

- With these minor edits OWM requests a Voting status
- OWM notes this item is currently in a “Developing” status. OWM encourages a review of the most current proposal and continues to seek feedback from all interested parties or individuals.

NIST OWM Executive Summary for SCL-23.3 – Verification Scale Division e: Multiple Sections Including, T.N.1.3., Table 6., T.N.3., T.N.4., T.N.6., T.N.8., T.N.9., T.1., T.2., S.1.1.1., T.N.1.2., Table S.6.3.a., Table S.3.6.b., Appendix D, S.1.2.2., Table 3., S.5.4., UR.3., Table 8.

NIST OWM Recommendation: Voting

- NIST OWM is of the opinion that the proposal is fully developed and supports a Voting status for this group of items. NIST OWM would like to stress the importance of this item. The current scale code in Handbook 44 contains several contradictions and inconsistencies with

NIST OWM Executive Summary for SCL-23.3 – Verification Scale Division e: Multiple Sections Including, T.N.1.3., Table 6., T.N.3., T.N.4., T.N.6., T.N.8., T.N.9., T.1., T.2., S.1.1.1., T.N.1.2., Table S.6.3.a., Table S.3.6.b., Appendix D, S.1.2.2., Table 3., S.5.4., UR.3., Table 8.

respect to the use of the terms “scale division”, and “verification scale division”. This leads to confusion and non-uniformity in the application of the code.

- The proposal presented by the task group is meant to clean up the code and bring clarification of the requirements with respect to e and d.

NIST OWM Executive Summary for SCL-24.3 – Table 6. Maintenance Tolerances

NIST OWM Recommendation: Informational

- OWM supports the effort to provide additional clarity to Table 6, specifically the interpretation of Class III L tolerances.
- Our office supports an Informational status until the weights & measures community agrees which of the proposed versions of Table 6 accomplishes that goal.

NIST OWM Executive Summary for SCL-22.2 – UR.1. Selection Requirements, UR.1.X. Cannabis

NIST OWM Recommendation: Assigned

- The proposed amendments to Table 7a are ambiguous. The weighing of all cannabis products is assigned to accuracy classes I, II and III. This will lead to confusion in the field. For this reason, OWM recommends this item remains assigned to the Task Group. OWM offers to assist the Cannabis Task Group in developing a more appropriate proposal for the amendment of Table 7a.

¹ In contrast to hemp, marijuana remains a Schedule I substance under the Controlled Substances Act. NIST does not have a policy role related to the legalization of the production, sale, distribution, or use of cannabis (including hemp and marijuana). NIST participates in the National Conference of Weights and Measures (NCWM) as part of NIST’s statutory mission to promote uniformity in state laws, regulations, and testing procedures.

AWS – Automatic Weighing Systems Code

NIST OWM Executive Summary for AWS-24.1 – N.1.5. Test Loads

NIST OWM Recommendation: Voting, with recommended changes.

- OWM agrees with the submitter that the language in paragraph N.1.5. can be interpreted in different ways.

NIST OWM Executive Summary for AWS-24.1 – N.1.5. Test Loads

- Paragraph N.1.5. and Table N.1.5. Test Loads apply to all Automatic Weighing Systems which includes:
 - Automatic weigh-labelers;
 - Combination automatic and non-automatic weigh-labelers;
 - Automatic checkweighers;
 - Combination automatic and non-automatic checkweighers; and
 - Automatic gravimetric filling machines that weigh discrete loads or single loads of loose materials and determine package and production lot compliance with net content representations.
- The subsequent paragraphs, N.2. & N.3. apply to Weigh-Labelers and Automatic Checkweighers, respectively.
- N.2. specifies how test loads are applied to Weigh-Labelers
- N.3. specifies how test loads are applied to Checkweighers.
- Because the application of test loads is specified in N.2. & N.3., OWM suggests amending N.1.5. as follows:

N.1.5. Tests Loads. – A performance test shall ~~consist of four separate test runs~~ be conducted **at with a minimum of four** different test loads according to Table N.1.5. Test Loads.
- This would clarify what test loads are required and would retain the current requirements pertaining to the application of test loads.

NIST OWM Executive Summary for AWS-24.2 – N.1.6. Influence Factor Testing

NIST OWM Recommendation: Voting

- The effect of influence factors is evaluated under controlled conditions, typically only during NTEP evaluation.
- As identified by the submitter, NCWM Publication 14 has procedures for evaluating influence factors when testing AWS either statically or dynamically, depending on the system’s capabilities.
- A search of NIST Handbook 44 shows that only one other section, 5.58. Multiple Dimension Measuring Devices, has a note that mentions influence factors. Typically, NIST HB 44

NIST OWM Executive Summary for AWS-24.2 – N.1.6. Influence Factor Testing

specifies tolerances associated with influence factors but does not specify a test (N. paragraph or test note).

- OWM agrees that this note is not needed and supports its removal.

NIST OWM Executive Summary for AWS-24.3 – N.22.3. Shift Test (Dynamic)

NIST OWM Recommendation: Voting

- NIST HB 44 currently has no shift test specified for devices that operate in the automatic mode only. Devices operating statically are tested for eccentricity with a test load equal to ½ capacity. OIML R-51 specifies conducting this test at 1/3 capacity.
- Adoption of this item would align NIST Handbook 44 with OIML R-51, not only with the type of test but the test load required (1/3 capacity)
- Adding this will facilitate field testing of these devices to ensure accuracy when off center loading occurs.

WIM – Weigh-in-Motion Systems – Tentative Code

NIST OWM Executive Summary for WIM-23.1 – Remove Tentative Status and Amend Numerous Sections Throughout

NIST OWM Recommendation: Informational

- NIST OWM applauds the efforts of the submitter to address the concerns raised and incorporate the feedback received from the community into the item under consideration. Our office supports this most recent version of the item and is of the opinion that most major concerns have been sufficiently addressed by the submitters.
- We agree that separating Section 2.25, which applies to WIM Systems used to screen and is a tentative code from this new proposed section, 2.26, which will apply to WIM Systems used to enforce highway load limits, is the best approach.
- The only concern we still have is with paragraph N.1.3. Reference Scale, which allows the use of a single platform vehicle scale to weigh the axles or axle-groups of a reference vehicle which are then summed to determine the gross vehicle weight. Using a single platform vehicle scale to weigh axles or axle-groups **in isolation**, as N.1.3.2 requires, is impractical. It would seem this is only possible using an axle-load scale.
- Even if N.1.3. didn't require the axles or axle-groups of a reference vehicle to be weighed in isolation, unless the approach for the scale is of sufficient length to ensure the reference vehicle

NIST OWM Executive Summary for WIM-23.1 – Remove Tentative Status and Amend Numerous Sections Throughout

is in the same plane as the vehicle scale while the reference values are being determined, there is concern that the values determined would be inaccurate.

- Because this version of the item wasn't available for review by the regions in its entirety and due to the number of significant changes being proposed our office supports an Informational status to allow for further consideration.

LMD – Liquid Measuring Devices

NIST OWM Executive Summary for LMD-24.1 – N.4. Normal Tests

NIST OWM Recommendation: Voting with recommended changes.

- For the 2024 edition of NIST Handbook 44, OWM made editorial changes to this paragraph based on a request from the submitter of this item. This is the how the paragraph now appears in the handbook:

N.4.1. Normal Tests. – The “normal” test of a device shall be made at the maximum discharge flow rate developed under the conditions of installation. Any additional tests conducted at flow rates down to and including one-half of the sum of the maximum discharge flow rate (MDFR) and the rated minimum discharge flow rate (RMDFR) shall be considered normal tests. As a formula, this is stated as:

$$\frac{MDFR+RMDFR}{2} = \text{minimum discharge flowrate for additional tests}$$

(Amended 1991 and 2023)

- For added clarification we suggest adding the word “normal” between the words “additional” and “tests” in the formula so it would appear as follows:

$$\frac{MDFR+RMDFR}{2} = \text{minimum discharge flowrate for additional normal tests}$$

- To be consistent with other examples currently in NIST Handbook 44, OWM suggests the following format for the example proposed by the submitter:

Example: If, under the conditions of installation, a device has a maximum discharge flow rate (MDFR) of 9 gpm and a rated minimum discharge flow rate (RMDFR) of 0.5 gpm, using the above formula the minimum discharge flow rate for additional normal tests is calculated as follows:

$$\frac{9 \text{ gpm} + 0.5 \text{ gpm}}{2} = 4.75 \text{ gpm}$$

For this device any test conducted at a flow rate of 9 gpm down to and including 4.75 gpm is considered a normal test and the acceptance or maintenance tolerances referenced in

Table T.2. Accuracy Classes and Tolerances for Liquid Measuring Devices covered in NIST Handbook 44, Section 3.30. are applicable.

Tests conducted below the minimum discharge flow rate for additional normal tests are considered “special” tests and shall be conducted as described in N.4.2. Special Tests. The special test tolerances referenced in Table T.2. Accuracy Classes and Tolerances for Liquid Measuring Devices covered in NIST Handbook 44, Section 3.30. are applicable.

- If the S&T Committee accepts the format for the example suggested by OWM, our office will support this item for adoption.
- OWM notes that in the Item Under Consideration the proposed new language is in in bold type and should be edited as such so it is clear to the reader that this is new language.

VTM – Vehicle Tank Meters

NIST OWM Executive Summary for VTM-20.2 – Table T.2. Tolerances for Vehicle Mounted Milk Meters

NIST OWM Recommendation: OWM supports the Assigned status for this item and encourages the Task Group to continue its review of the proposed OIML tolerances for Vehicle Tank Milk Meters.

- One of the concerns raised is that the proposal includes tolerances for the system and a separate tolerance for the meter.
- NIST OWM observed that a separate tolerance for the meter would apply during OIML type evaluation. However, NIST HB 44 only includes requirements for the entire measurement system and not separate main elements nor does it have separate tolerances for main elements known to be metrologically significant.
- Aaron Yanker (Colorado) is listed on the NCWM website as the Milk Meter Task Group Chair NIST OWM will look forward to more discussion of this item during task group meetings.

LPG – Liquefied Petroleum Gas and Anhydrous Ammonia Liquid-Measuring Devices

NIST OWM Executive Summary for LPG-23.1 – S.2.5. Zero-Set-Back Interlock

NIST OWM Recommendation: Withdrawn

- Zero set-back interlock ensures that a device is returned to zero before another customer or services person uses the device for another transaction thus preventing the facilitation of fraud per G-S.2. Facilitation of Fraud.
- The LPG Code paragraphs S.2.5.1 and S.2.5.2 address electronic stationary and other stationary devices because the process for zero-set-back interlock operates differently for an

NIST OWM Executive Summary for LPG-23.1 – S.2.5. Zero-Set-Back Interlock

electronic stationary device than it does for a stationary retail motor fuel device as described in S.2.5.2. but both devices are required to return to zero before another transaction is made.

- The submitter states that only a few transactions for LPG dispenser are for fueling vehicles and they are limited to use by trained staff. Paragraphs S.2.5.1 and S.2.5.2 are not dependent on who is dispensing the product or how often the device is used as a retail motor dispenser; the paragraphs are intended to ensure that the device is so designed that each new transaction starts at zero. What happens if they are used more frequently for use in fueling vehicles?
- According to the requirements both electronic stationary and stationary retail motor fuel dispensers must have a zero-setback interlock.
- If this proposal is adopted “*Devices Used Exclusively as*” would be added to both S.2.5.1. and S.2.5.2. to exempt stationary retail motor-fuel devices that are used for purposes other than dispensing retail motor-fuel from having a zero-set-back interlock and a note would be added to S.2.5.1. that would exempt Analog devices used for purposes other than dispensing retail motor-fuel from having a zero-set-back interlock.
- Is this equitable to other products dispensed, such as gasoline or diesel. The devices that dispense these products are required to have a zero-setback interlock and are sometimes used to fill containers used for filling gasoline or diesel-powered equipment. Granted, the majority of these dispensers are used to fill vehicles; but does this create an unfair market situation where some fueling dispensers are required to have zero set-back interlock and others are not?
- The submitter also stated that proposed changes were introduced for consideration in 2023 to allow public refueling of LP Gas with safety precautions and with these new requirements zero-setback interlock is needed. How will LPG devices with and without zero-setback interlock be fairly- regulated? Is this equitable to other products dispensed, such as gasoline dispensers. Gasoline dispensers are required to have a zero-setback interlock, and some are used to fill containers used for gasoline- powered equipment. Granted, the majority of gasoline dispensers are used to fill vehicles; but does this create an unfair market situation where some fueling dispensers are required to have zero set-back interlock and others are not?
- The submitter also stated that proposed changes were introduced for consideration in 2023 to allow public refueling of LP Gas with safety precautions and with these new requirements zero-setback interlock is needed. How will LPG devices with and without zero-setback interlock be fairly regulated?

NIST OWM Executive Summary for LPG-24.1 – S.1.5.7. Retail Motor Fuel Dispenser Liquefied Petroleum Gas Retail Motor Fuel Device., S.2.6.1. Electronic Stationary (Other than Stationary Retail Motor Fuel Dispensers Liquefied Petroleum Gas Retail Motor Fuel Device), S.6.2. Automatic Timeout Pay-at-Pump Retail Motor Fuels Devices Liquefied Petroleum Gas Retail Motor Fuel Device, and S.4.3. Location of Marking Information: Retail Motor Fuel Dispensers Liquefied Petroleum Gas Retail Motor Fuel Device.

NIST OWM Recommendation: Withdraw

- The definition of “liquefied petroleum gas retail motor-fuel device” was added in 2022 for inclusion in the 2023 edition of NIST Handbook 44. Currently the definition recognizes the terms “retail motor-fuel dispenser” and “retail motor-fuel device” to be the same as and interchangeable with “liquefied petroleum gas retail motor-fuel device”.
- OTH-24.1. proposes amending this definition to apply only to those devices with a K15 nozzle. OWM does not support this change.
- If OTH-24.1 is withdrawn, OWM could support these proposed changes as it would replace various terms with one term that is defined and applies to this section of the handbook.
- This item should be blocked with LPG-24.2 and OTH-24.1 if they remain on the agenda.

NIST OWM Executive Summary for LPG-24.2 – S.2.5. Zero-Set-Back Interlock. S.2.5. Zero-Set-Back Interlock

NIST OWM Recommendation: Withdrawn/Developing

- If the item remains as proposed it should be withdrawn or be assigned a developing status.
- OTH-24.1. proposes amending the definition of “liquefied petroleum gas retail motor-fuel device” to apply only to those devices with a K15 nozzle. OWM does not support this change until the K15 connector is the standard for all LPG powered vehicles.
- This item should be blocked with LPG-24.1 & OTH-24.1 if they remain on the agenda.
- S.2.5. (later amended and renumbered as S.2.5.2.) was adopted as a nonretroactive requirement taking into consideration that the devices in service prior to adoption could not meet this requirement.
- In the justification of this item the submitter asserts that “costly industry-wide retrofits of existing, functioning multi-use equipment” are required. S.2.5.1. and S.2.5.2. were adopted as a nonretroactive requirements to prevent this.
- The weights & measures community should carefully consider the impact of making S.2.5.1. retroactive as it was adopted in 2019 with an effective date of January 1, 2021. There may be devices that cannot comply with this requirement which would need to be retrofitted if this item is adopted as proposed.

NIST OWM Executive Summary for LPG-24.2 – S.2.5. Zero-Set-Back Interlock. S.2.5. Zero-Set-Back Interlock

- A search of the NCWM website indicates that there are various retail motor-fuel devices designed to dispense LPG that have an NTEP CC. Those installed after 1/1/2017 are required to have a zero-set-back interlock.
- Zero set-back interlock prevents the facilitation of fraud in accordance with G-S.2. Facilitation of Fraud by ensuring a dispenser returns to zero before the next transaction can be initiated whether the transaction is initiated by trained service personnel or a customer filling their own vehicle.
- In the justification for OTH-24.1. the submitter acknowledges that not all propane powered vehicles have the K15 connection. Per the U.S. Department of Energy’s website “The National Fire Protection Association (NFPA) Code 58 (beginning with the 2017 version) requires all new vehicles to be equipped with the quick-release “Type K15” connector as of January 1, 2020. The ACME QCC screw-on connector has been used since 1994 for both vehicles and bottle filling.”
- Those vehicles that have the older style connection may have no choice but to fill at a station that may not have a device that has a zero-setback interlock.

MLK – MILK METERS

NIST OWM Executive Summary for MLK-23.2 – Table T.1. Tolerances for Milk Meters

NIST OWM Recommendation: A review of this item by the Milk Meter Task Group will be useful. We agree with the regions that recommended this item remain Assigned to the Milk Meter Task Group, and when the task group meets the item should be fully vetted by industry and the weights and measures community.

- The Milk Meter Task Group reviewed all the varying tolerances in NIST HB 44 for Milk meters. Instead of keeping a decreasing tolerance as the test draft increases, the Task Group is proposing that the tolerances, as included in the 2024 Interim Meeting Agenda for VTM-20.2 for milk meters, also be adopted in the Milk Meter code.
- Aaron Yanker (Colorado) is listed on the NCWM website as the Milk Meter Task Group Chair. When the Task Group meets, a review of the item to include a review from affected industry and weights and measures jurisdictions is recommended.
- NIST OWM recognizes the comment made by the submitter to consider blocking item MLK-23.1 with VTM-20.2 and a comment to withdraw item MLK-23.1. VTM-20.2 was discussed by the Milk Meter Task Group which included comments from industry and weights and measures jurisdictions and also appeared as a voting item on the S&T agenda. If the items are combined, a recommendation to withdrawn MLK-23.2 may affect VTM-20.2.

HGM – Hydrogen Gas-Measuring Devices

NIST OWM Executive Summary for NIST HGM-23.1 – UR.3.8. Safety Requirement

NIST OWM Recommendation: OWM has no recommendation until additional data is submitted.

- It has not been part of the weights and measures standards development process to include prescriptive safety requirements into handbook legal metrology standards.
- The dispenser’s design features regardless of their function should not affect the metrological integrity of the equipment.
- Traditional fueling applications have established mechanisms to address the safety features of dispenser installations not typically within the scope of the weights and measures authority.
- Groundwork is not outlined in the proposal detailing key elements that must be established for an SAE J2601 verification program and what standards if any apply to equipment in operation before the effective date.
- NIST OWM looks forward to the reporting from CA DMS and CARB as well as any updates from the submitter to clarify the types of test data available that are the result of compliance testing to the SAE J2601 standard.

EVF – Electric Vehicle Fueling Systems

NIST OWM Executive Summary for EVF-24.1 – S.1.3. Mobile Device as Indicating Element for AC Chargers

NIST OWM Recommendation: Withdraw. The EVSE primary display must meet a more comprehensive set of requirements in multiple codes to provide clear, legible, and verifiable transaction information and other metrological data in an appropriate manner.

- NIST OWM does not believe the proposed exceptions are appropriate without more detailed work to fully vet the permissible metrological features and functions for the wide range of software based remote devices to be recognized as the primary indicating elements for these commercial electrical energy measuring systems.
- The list of requirements referenced in the proposal (S.1.1., S.1.2., S.2.4.1, S.2.6, S.2.7, UR.1.1., and UR.3.1.) is not all inclusive of the paragraphs in NIST HB 44 applicable to indicating elements. There are additional requirements in Sections 1.10. General Code, 3.40. Electric Vehicle Fueling Systems and 5.55 Timing Devices that apply to an EVSE display that is an integral part of the electrical energy dispensing system or when a single display is used by multiple EVSEs. Therefore, additional accompanying requirements need to be developed for clarity and to fully recognize the proposed options for primary displays.
- It was suggested prior to the code’s adoption in 2016, to identify those paragraphs which are posing difficulties for some manufacturers to meet and possibly making those paragraphs non-retroactive, with an eventual sunset date, rather than proposing an exception to the entire code.

NIST OWM Executive Summary for EVF-24.1 – S.1.3. Mobile Device as Indicating Element for AC Chargers

- Likewise, OWM also suggested that exceptions are sometimes made for certain applications which are able to meet a requirement in a different way through other mechanisms such as a contract or other price agreement or fleet sales.
- An additional concern, with regard to equity, is that companies have spent money to comply with display requirements and after 2024 would be competing with a population of existing noncompliant equipment and new equipment which will not have to be equipped in the same manner with a primary display.
- The proposal is unclear if the devices running those apps are a necessity for the operation of the charging equipment although the proposal specifies the location of the handheld device or vehicle as “being in the immediate vicinity of the EVSE” and yet there is no mention of their availability over the entire course of the transaction given a session can take twenty minutes or multiple hours to complete.
- The open-ended nature of the types of devices that fall under this category means a wide variety of handheld devices or vehicles would be part of the type evaluation process where their accuracy and clarity become more critical to the measurement transaction.
- If they are the only EVSE primary display these newly recognized devices will be the means for accessing the device/system metrological security information which can be sizable, and determining fuel quantity totals.
- With some further work “Apps” installed on a mobile device might provide the best opportunity for allowing for innovation since there is a mechanism for reviewing the display provided by the app and ensuring its operation provides the necessary information.
- The vehicle user interface, on the other hand, is somewhat problematic. They can vary from manufacturer to manufacturer and will undoubtedly change from year to year. How will the operator or regulatory official verify transaction information if vehicle user interface is the only means available for verification of this information? Will drivers be asked to voluntarily assist in inspections and complaint investigations, or will a car be provided as part of the official’s tool kit? The code will need to address this, and it will be necessary to ensure type evaluation can adequately address this.
- How would the overall provisions of the General Code regarding legibility, clarity, and appropriateness of indications be applied when there is no display unique to a given EVSE on-site? The code addresses the EVSE as the intended point at which commercial measurements of electrical energy and related time fees are being made rather than the handheld device or EV.
- Will there be unique or common vulnerabilities to factors such as levels of service, temperature, connectivity, etc. For traditional vehicle fuel dispensers and other alternative vehicle fuel dispensers weather and normal wear issues are managed through equipment and station design and maintenance programs.

NIST OWM Executive Summary for EVF-24.1 – S.1.3. Mobile Device as Indicating Element for AC Chargers

- The submitter cites the concept of “Plug and Charge” that is part of ISO 15118 but has not provided information on the exact relevance/application to legal metrology requirements that apply.
- Currently EVF-24.1 is a proposal for a new requirement but the letter-number paragraph designation of S.1.3. is already part of the existing code and is titled EVSE Units. Does the submitter intend the proposal to replace existing code; be part of indicating element requirements already included in the code; or have a new letter-number designation?

NIST OWM Executive Summary for EVF-24.2 – S.2.7. Indication of Delivery, N.3.2. Accuracy Testing, and T.2.1. EVSE Load Test Differences Tolerances

NIST OWM Recommendation: Voting to allow fundamental requirements such as accuracy to be met uniformly across the marketplace.

- The proposal modifies the 2028 enforcement date to become 2025 for DC Systems (1) automatic display of the start at zero and the final quantity of the electrical energy delivery, (2) performance test procedures, and (3) associated test tolerances.
- The 2028 enforcement dates were adopted July 2022 as part of an emergency agenda item to make the NIST HB 44 EVFS Code permanent and in response to a lack of test equipment.
- The lack of access until 2028 to fundamental requirements, such as these for indications, accuracy tests, and tolerances, might possibly lead to nonuniformity in the application of those three sections of the EVFS code.
- Paragraph G-A.3. Special and Unclassified Equipment exists for use by jurisdictions wishing to inspect and test existing equipment in order to approve it for commercial use.
- We recognize that commercially available testing devices for high powered chargers are slated to become more widely available shortly and essential to verify DC fast charging equipment.
- The Committee should correct the letter number designation for the test note to become N.3.2. not N.5.2. and the title of the tolerance requirement to become T.2.1. EVSE Load Test Tolerances not EVSE Load Test Differences. Should the submitter further modify the proposal to make the requirements enforceable to equipment only after the effective date, then the text should be changed to *italic* type.

NIST OWM Executive Summary for EVF-23.4 – S.5. Markings and N.5. Test of an EVSE System

NIST OWM Recommendation: Developing to resolve the ambiguity of the language that prescribes the conditions for performing the test.

NIST OWM Executive Summary for EVF-23.4 – S.5. Markings and N.5. Test of an EVSE System

- NIST acknowledges that although not reflected in the Item Under Consideration the submitters will recommend a return to the pre 2023 requirement for marking of the MCD not the MDA (i.e., S.5.2.(b)) to clarify the appropriate terminology to be used for specifying the EVSE manufacturer’s highest amperage load rating for operation of the equipment under test and to be marked on the device.
- This proposal removes any reference to the feature used to determine the MDA percentage level achieved during accuracy tests and establishes a new MDA range for performing the light load test and when a vehicle is the test load for verifying EVFSs.
- The 2023 proposal created a new separate test requirement initially for laboratory evaluations which are now specified solely for type evaluation; therefore a 2028 exemption would also be new text that requires being underscored to clearly designate the 2028 effective date as new language.
- The 2028 effective date is confusing, is the intent that no testing at an approved brick and motor facility nor type evaluations can be carried out until January 1, 2028?
- OWM notes that because of the 2028 enforcement date the NIST Handbook 44 General Code will continue to apply to existing equipment, including paragraph G-A.3. Special and Unclassified Equipment. Jurisdictions wishing to inspect and test existing equipment in order to approve it for commercial use would be left to use this provision.
- A slight change is recommended for the agenda item’s title to include missing paragraphs S.5.2.(b) EVSE Identification and Marking Requirements and S.5.3.(d) Abbreviations and Symbols; joule and striking ~~S.5. Markings~~ to clarify these units of measurement are a part of this proposal. This would also assist the community in distinguishing this item from multiple other proposals that address other types of EVFS marking requirements.
- In May 2023 the EVFE Subgroup tasked its Test Procedure Subcommittee (TPS) to undertake the project of combining Items EVF-23.4 and EVF-23.7 into a single proposal. After input from the submitters of both proposals and other U.S. stakeholders, and multiple meeting deliberations (June through December 2023) the TPS arrived at a draft that combines elements of both proposals under EVF-23.4 that it will send to the EVFE Subgroup mid-December 2023 for its consideration. Simultaneously the co-submitters agreed in late August to combine the desired elements from both proposals under a single agenda item and to also recommend withdrawing of EVF-23.7.
- Multiple paragraphs appearing under the heading “Item Under Consideration” no longer reflect the exact wording or paragraph designations of these requirements as a result of actions which occurred during the 31JUL2023-03AUG2023 NCWM Annual Meeting.
- The NIST Technical Advisor to the TPS has noted there are five places in the submitters’ August 2023 alternate test procedures and new definitions needing further refinement to ensure uniform interpretation and application of the test procedure requirements (see the NIST OWM Detailed Technical Analysis). NIST OWM recommended further edits to clarify test procedures where requirements include the *terms/phrases*: (1) *maximum power level*; (2) using

NIST OWM Executive Summary for EVF-23.4 – S.5. Markings and N.5. Test of an EVSE System

the *test equipment available*; (3) current levels should be *separated to the extent the test equipment will allow*; (4) installed under *optimum conditions* (in the definition of MCD); and (5) determined by the signal or communication between the EVSE and EV or test equipment (in the definition of MDA). The 2028 effective date is confusing, is the intent that no testing at an approved brick and motor facility nor type evaluations can be carried out until January 1, 2028?

NIST OWM Executive Summary for EVF-23.6 – S.5.2. EVSE Identification and Marking Requirements and T.2. Tolerances

NIST OWM Recommendation: Developing to allow for deliberations on the enforcement dates and establishing parameters for use of an electronic display.

- Initially NIST OWM suggested a review of Items EVF-23.5 and EVF-23.6 where both items propose changes to marking and accuracy requirements in NIST Handbook 44.
- OWM has given thought to how we might assist the Committee and the Community in addressing these items in arriving at a single proposal that would meet the needs of the submitters of both items and other stakeholders.
- OWM believes this proposal (Item EVF-23.6) and the alternative recommended in Item EVF- 23.5 both required more work and vetting as suggested by two of the four regional associations. Voting Item EVF-23.6 needs further refinement.
- OWM believes this *preliminary* work would have been done in the USNWG SG as recommended during the WWMA meeting and recommended the Committee designate these items as Developing in 2023 and asked the SG for assistance in vetting the proposals. Adoption should occur only after fully vetting proposals by the entire community as the submitter(s) may be too close to the subject or take too wide a berth in the development of new or modification of existing requirements resulting in either overlooking or oversimplifying the lessons learned in the marketplace which can lead to misreading the complexities of commercial applications which have necessitated legal metrology controls. It has been reported that when addressing the level of confidence that buyers and sellers have, and the accuracy with which these transactions are performed that: The consumer has no way to verify the accuracy of the transaction and must rely on the accuracy of the fuel dispenser.
- In anticipation that the Committee believed there was an urgent need to move one of these proposals forward, OWM encouraged the Committee to use the proposed language in Item EVF-23.5 as a starting point to ensure clarity and understanding of the final language.
 - Having well-defined tolerances with clear and understandable effective dates is essential.
 - Defining tolerances that are enforceable in the specific device codes is also preferable to the alternative of having jurisdictions use the provisions of the General Code to implement

NIST OWM Executive Summary for EVF-23.6 – S.5.2. EVSE Identification and Marking Requirements and T.2. Tolerances

tolerances suitable for the application since this has the potential for non-uniform application across the country.

- As shared in its comments in Item EVF-23.5, OWM believes the proposed changes in Item EVF-23.5 was much clearer in language, format, and application and are closer to language agreed to by the USN WG SG for ballot in June 2022 than are the proposed changes in Item EVF-23.6. OWM is aware of the Committee’s decision to withdraw Item EVF-23.5.
 - The USN WG EVFE Subgroup gained momentum as the result of a June 2022 ballot in which the group agreed to move forward to recommend a wider tolerance of 5 percent only for DC systems installed before 2024 that must bear accuracy markings while maintaining for AC systems a 1 percent Acceptance Tolerance/2 percent Maintenance Tolerance and the tighter tolerance would also apply to post 2024 DC systems.
 - The language from the June 2022 ballot is included in OWM’s detailed analysis below and in the history on Item EVF-23.5.
- There were differences between the language recommended in that June 2022 SG ballot and that proposed in Item EVF-23.6. The language recommended in the June 2022 ballot:
 - Permitted DC devices installed before 2024 to have a wider tolerance if they were clearly marked to designate their accuracy.
 - Included a wider tolerance of 5 % for DC systems installed before 2024 when accuracy is marked, which several OEMs identified as achievable. Note: The June 2022 SG’s language did not include an exemption for DC systems from accuracy tolerances up through 2028 to sunset in 2034 and was a more suitable option.
 - Recognized the EVFE Subgroup would further refine the requirement’s text.
- OWM acknowledged a Florida, Electrify America, Tesla, EVgo, and Siemens’ October 15, 2022, letter sent to the S&T Committee regarding EVF-23.6 and a June balloted proposal of the USN WG EVFE Subgroup (SG). OWM submitted the following clarifications regarding this letter to the S&T Committee.
 - NIST OWM, as convenors of the EVFE SG, sent a response to the Committee indicating that although the results of the Subgroup’s June 2022 ballot indicate the group’s support for modifications to tolerances and marking requirements this should not be construed as supporting the specific changes proposed in EVF-23.6.
 - There are some key differences between the Subgroup’s June balloted proposal and EVF-23.6. Specifically, the Subgroup’s proposal does not include two different retroactive dates and differs in the magnitude of the tolerances and specific conditions under which they would apply, the permissible format required for markings (which are not indelible, do the submitters have a label or electronic only in mind?) and reference to certification.

NIST OWM Executive Summary for EVF-23.6 – S.5.2. EVSE Identification and Marking Requirements and T.2. Tolerances

The convenors of the Subgroup will continue to provide written and verbal input as explicitly directed by the group.

- It also is written that the components of the weights and measures infrastructure help to ensure the accuracy and validity of commercial transactions based upon weight, measure, or count and to ensure that the quality of products meets required quality standards. Another purpose of these components is to ensure consumers are informed so that they can make value comparisons. A robust infrastructure ensures equity in the marketplace, meaning that consumers receive the correct quantity and quality of products and services for which they pay, and businesses receive fair payment for the products and services that they deliver. By ensuring that they operate according to a consistent set of weights and measures standards and practices, businesses are also protected from unfair competition.
- Below are some additional comments for the Committee and other stakeholders to have considered in their review of Item EVF-23.6:
 - Use of the terms “load” and “accuracy” should be reviewed for consistency in their use in the titles of the two T.2. subparagraphs.
 - The community should revisit past national discussions on the electronic formatting of required marking information and also consider April 2023 comments raised in the EVFE Subgroup ballot for specifying a minimum time for the duration of the displayed accuracy statement and the statement be capable of being viewed in entirety prior to use of the EVSE.
- Adoption should occur only after fully vetting proposals to modify fundamental requirements such as those that impact accuracy, transparency, or that ensure fair competition to:
 - avoid unforeseen consequences;
 - ensure stakeholders have the appropriate tools needed for this new device application;
 - discourage nonuniformity which can have a disruptive influence on the marketplace; and
 - take corrective action on discovering any gaps/oversight in modifications to the seven-year-old legal metrology requirements.
- Where commercial equipment is known to operate at dual tolerances the proposed marking and performance requirements should be retroactive. Although there is likely to be some discussion as to what nonweights and measures agencies designate as a “public” station; the DOE EERE Alternative Fuels Data Center provides the number and location (stations/ports/charging levels) of alternative fueling installations in each state on the EERE website available at: <https://afdc.energy.gov/stations/states>.
- NIST OWM acknowledges that the EVFE Subgroup met on December 8, 2022 and March 2 and 6, 2023 to address proposals under consideration for the 2023 standards development cycle and the SG provided a July 12, 2023 memorandum on its position in support of the Item Under

NIST OWM Executive Summary for EVF-23.6 – S.5.2. EVSE Identification and Marking Requirements and T.2. Tolerances

Consideration for Item EVF-23.6 as it appears in the Committee’s Interim Meeting Report (PUB 16).

- NIST OWM encourages the community's participation in the USNWG EVFE Subgroup which began its work in 2012 and whose work resulted in NIST HB 44 3.40 EVFS Code's adoption in 2015. The Subgroup has reviewed the four paragraphs that appear in multiple 2023 proposals that address: (1) dual EVSE tolerances (2.0 percent or 5.0 percent [DC EVSEs]); (2) new EVSE markings required for the wider tolerance in the marketplace; and (3) corresponding accuracy test procedures.
- There are several dates referenced in proposed EVF-23.6 paragraph T.2.2. Tolerances that conflict and OWM believes will create confusion for those implementing the proposed requirements.
 - The statement adopted by the NCWM in July 2022 exempting DC devices from any tolerance requirements until 2028 remains in the proposal, yet there is a date of 2024 in both the proposed paragraph T.2.2.(a) and paragraph T.2.2.(b) which specifies requirements for DC devices installed prior to 2024. This is confusing and widens the gap: (1) in time delays in the application of tolerances in what will be a dual tolerance marketplace for DC systems (2) that encourages nonuniformity in equipment performance and (3) in the timely marking of information for consumer awareness.
 - Proposed paragraph T.2.2.(a) references a sunset date of 2034, yet there is still a statement referring to a 2028 date, creating a conflict. Additionally, the 2034 date is 6 years after the 2028 date that was adopted by the NCWM in July 2022. The rationale for establishing a sunset date of 2034 for the entire country, given the pace at which technology has already advanced, is nineteen years after the tentative code was first adopted by the NCWM.
- There were differences between the language recommended in that June 2022 SG ballot and that proposed in Item EVF-23.6. The language recommended in the June 2022 ballot:
 - Permitted DC devices installed before 2024 to have a wider tolerance if they were clearly marked to designate their accuracy.
 - Included a wider tolerance of 5 % for DC systems installed before 2024 when accuracy is marked, which several OEMs identified as achievable. Note: The June 2022 SG’s language did not include an exemption for DC systems from accuracy tolerances up through 2028 to sunset in 2034 and was a more suitable option.
 - Recognized the EVFE Subgroup would further refine the requirement’s text.
- OWM acknowledged a Florida, Electrify America, Tesla, EVgo, and Siemens’ October 15, 2022, letter sent to the S&T Committee regarding EVF-23.6 and a June balloted proposal of the USNWG EVFE Subgroup (SG). OWM submitted the following clarifications regarding this letter to the S&T Committee.

NIST OWM Executive Summary for EVF-23.6 – S.5.2. EVSE Identification and Marking Requirements and T.2. Tolerances

- NIST OWM, as convenors of the EVFE SG, sent a response to the Committee indicating that although the results of the Subgroup’s June 2022 ballot indicate the group’s support for modifications to tolerances and marking requirements this should not be construed as supporting the specific changes proposed in EVF-23.6.

There are some key differences between the Subgroup’s June balloted proposal and EVF-23.6. Specifically, the Subgroup’s proposal does not include two different retroactive dates and differs in the magnitude of the tolerances and specific conditions under which they would apply, the permissible format required for markings (which are not indelible, do the submitters have a label or electronic only in mind?) and reference to certification. The convenors of the Subgroup will continue to provide written and verbal input as explicitly directed by the group.

Due to time constraints the Subgroup has not met on this issue in 2023.

- Should the community agree to the numerical designation of an Accuracy Class for DC systems which meet the wider tolerance, then additional requirements should be developed to include: (1) a new standardized accuracy class table; (2) requirements specifying the appropriate “Accuracy Class” identifier; and (3) requiring the accuracy classification be marked on the EVSE.
- Notice to consumers will need to adequate as to the information they provide that accuracy assurance varies from one site to another.

NIST OWM Executive Summary for EVF-23.7 – N.1. No Load Test, N.2. Starting Load Test N.5.2. Accuracy Testing, and Appendix D: Definitions– maximum deliverable amperes

NIST OWM Recommendation: Withdraw due to work in progress nearing completion to incorporate this proposal into EVF-23.7.

- Test procedures are not solely written to the operational characteristics or particular design of one test apparatus. Test procedures should encompass operational conditions over the course of the entire transactions in the marketplace. Test points should fall within the rated minimum up through the maximum operational ranges specified by the manufacturer for the EVFS under normal conditions of commercial use.
- Observe this proposal removes any reference to the feature used to determine the MDA percentage level achieved during accuracy tests and establishes a new MDA range for performing the light load test and when a vehicle is the test load for verifying EVFSs; whereas other proposals recommend the establishment of a new laboratory test in addition to field test procedures.
- The EVFS test standard must be fit for purpose or appropriate and suitable (this might be demonstrated by data) in its design, capacity, and accuracy; and would allow for replication of the manner in which the EVSE is used in commerce. The test standard used to verify an EVSE must also meet the NIST HB 44 Appendix A Fundamental Considerations for a test apparatus.

NIST OWM Executive Summary for EVF-23.7 – N.1. No Load Test, N.2. Starting Load Test N.5.2. Accuracy Testing, and Appendix D: Definitions– maximum deliverable amperes

- Therefore, with a decade of experience with EVFSs having gone through type evaluation (i.e., CADMS) and test equipment designed to verify both AC and DC systems and the laboratory community closing in on filling the last gaps in the weights and measures infrastructure for EVFSs; it is important and necessary that all stakeholders (EVSE/test equipment manufacturers, type examiners, and regulators) reach a consensus on test procedures.
- Is this a proposal to renumber paragraph N.5. Accuracy Testing to become N.5.2.1.? The proposal does not show paragraph N.5.2 in entirety, is the submitter proposing to remove the 2028 enforcement date? Please be advised that as a result of actions which occurred during the 31JUL2023-03AUG2023 NCWM Annual Meeting modifications to NIST HB 44 3.40 were adopted and resulted in the renumbering of the test notes (N.), the N.5 test procedure paragraphs were renumbered to become N.3. Additionally, that action by the NCWM deleted and no longer recognizes paragraphs N.1. No Load Test and N.2 Starting Load Test as part of the minimum test procedures for EVSEs.
- The proposal removes the No Load Test and Starting Load Test but does not do the same for the tolerances applicable to these tests in paragraphs T.5. and T.6, respectively.
- For clarity the “meaning portion” of a definition should not include the term or parts of the term it is defining nor cite one of the many code paragraphs where the term is used because the appearance can be the term is unique to that sole paragraph. Therefore, the term’s definition should include reference to the EVFS Code in brackets (i.e., [3.40] at the end of the definition rather cite a single code requirement or paragraph. The EVFS is a permanent code and definitions applicable to the code should be included in Appendix D—Definitions.
- In May 2023 the EVFE Subgroup’s Test Procedures Subcommittee (TPS) was tasked with working through a May 2023 version of the test procedures addressed in Item EVF 23.4. This latest modified version of the test procedures is the result of the collaborative effort of the submitters of both test procedure proposals in Items EVF 23.4 and EVF-23.7. TPS discussions about modifications of the test procedures and defining new terms having special and open-ended meaning were focused on input from stakeholders (type and routine field testing), the NCWM, regional weights and measures associations, and NIST OWM. Based on the TPS's May through December 2023 deliberations the TPS has agreed to forward a combined proposal derived from both EVF-23.4 and EVF-23.7 for the EVFE Subgroup’s consideration.

GMA – Grain Moisture Meters 5.56 (a)

NIST OWM Executive Summary for GMA-19.1 – Table T.2.1. Acceptance and Maintenance Tolerances Air Oven Method for All Grains and Oil Seeds

NIST OWM Recommendation: NIST OWM supports the Grain Analyzer Sector’s decision to Withdraw this item recognizing that if additional data is received the proposed tolerance changes may be resubmitted for consideration.

- During the NTEP Grain Analyzer (GA) Sector 2019 meeting, the Sector reviewed data from Arkansas for Long Grain Rough Rice (LGRR) and other grains. The data showed that the

NIST OWM Executive Summary for GMA-19.1 – Table T.2.1. Acceptance and Maintenance Tolerances Air Oven Method for All Grains and Oil Seeds
<p>proposal to tighten the acceptance and maintenance tolerance may not be appropriate for all grain types. The original data presented and used as a basis for the proposal applied to corn and soybeans. After reviewing the data, the Sector decided to collect inspection data from across the country. An industry representative offered to assist with data analysis and along with the NIST representative will work in producing the inspection data needed for the analysis. A request for State participation will be sent to State weight and measures. The Sector requests that this remain a Developing Item as they move forward in evaluating additional data.</p> <ul style="list-style-type: none">• North Carolina submitted the requested grain data for review. Field meter inspection data from the state of North Carolina for years 2017 to 2019 was examined and comprised over 3300 records each usually averaged 3 commodity drops on UGMA and Non-UGMA meter types. While only one state’s data cannot be considered representative of all the other states, the results provide indications of trouble with decreased tolerances on both UGMA and Non-UGMA meter types.• The Grain Analyzer Sector has not received additional data needed to further assess their proposed tolerances changes to NIST HB 44, Section 5.56(b) The GA Sector will keep this as an open item on their Sector agenda, but as the submitter of this item, the GA Sector recommends that this item be withdrawn. If or when additional data is received, the Grain Analyzer Sector may resubmit the item.

OTH – Other Items

NIST OWM Executive Summary for OTH-16.1 – Electric Watthour Meters Code Under Development
<p>NIST OWM Recommendation: Informational with an upgrade in status should the stakeholders reach agreement by March 2024.</p> <ul style="list-style-type: none">• The title of this Item should read “Non-Utility Electricity-Measuring Systems (NUEMS) – Tentative Code”.• Most members supported the proposed language as it currently appeared in the 2023 S&T Agenda (NCWM Pub. 16), although regulatory members of the SG disagreed with the proposed language.• In addition, the regulatory members provided a detailed list to the WHE SG of their concerns. These concerns are noted in the letter that NCWM received from the California Agricultural Commissioners and Sealers Association (CACASA) (dtd. June 29, 2023) and posted under the NCWM S&T Supporting document website.• The WHE SG attempted to address the regulators and CACASA concerns. They made headway in addressing those concerns and they appear in the Crosswalk below.

NIST OWM Executive Summary for OTH-16.1 – Electric Watthour Meters Code Under Development
<ul style="list-style-type: none">• The Crosswalk below, provides updates of items that appear in the 2023 S&T Annual Agenda (Pub. 16). They represent changes the WHE SG voted on to move forward to the S&T Committee for consideration. Due to limited time, the WHE SG was not able to address all the items, and the work continues.

NIST OWM Executive Summary for OTH-24.1 – Appendix D, Definitions: liquefied petroleum gas retail motor-fuel device.
NIST OWM Recommendation: Withdrawn <ul style="list-style-type: none">• If the item remains as proposed it should be withdrawn or be assigned a developing status.• The reference to Section 3.32. at the end of the definition should not be stricken.• OWM opposes limiting this definition to those devices that have a K15 nozzle as it is only required on “self-service engine fuel dispensers” per NFPA 58, 6.28.5.2.• Currently all dispensers used to deliver LPG as a motor vehicle fuel installed after January 1, 2017 are required to have a zero-setback interlock as required on devices that dispense other types of fuels into motor vehicles.• A search of the NCWM website indicates that there are various retail motor-fuel dispensers designed to dispense LPG that have an NTEP CC and are suitable for this purpose. Those installed after January 1, 2017 are currently required to have a zero-setback-interlock.• This item should be blocked with LPG-24.1 and LPG-24.2 if they remain on the agenda.
NIST OWM Executive Summary for OTH-24.2 – Appendix D, Definitions: National Type Evaluation Program (NTEP) and Certificate of Conformance (CC)
NIST OWM Recommendation: Voting with the following suggested edits: <ul style="list-style-type: none">• In the proposed definition of <u>Certificate of Conformance (CC)</u> OWM suggests the following editorial changes:<ul style="list-style-type: none">• Replace “testing” with “evaluation” as labs do more than just test devices.• Replace “a Participating” with “an authorized” or similar terms to recognize that some CC’s will be issued by the NCWM NTEP lab.• Replace “test procedures” with “relevant provisions” as Pub 14 includes procedures for evaluation other than test procedures.• Remove “which the certificate holder maintains in active status under the National Type Evaluation Program (NTEP)” as inactive certificates are still recognized.

NIST OWM Executive Summary for OTH-24.1 – Appendix D, Definitions: liquefied petroleum gas retail motor-fuel device.

- Replace “By maintaining the Certificate in active status, the Certificate holder declares the intent” with “An active Certificate represents the intent of the holder” and add “approved” before “type” in this sentence.
- Remove the sentence “Some certificates may be designated as inactive.” as it is unnecessary.
- The definition then would appear as follows:

Certificate of Conformance (CC) – A document issued based on evaluation by an authorized laboratory. The document constitutes evidence of conformance of a model or models of a particular device, measurement system, instrument, or element that positively identifies the design with the requirements of this document, NIST Handbook 44, “Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices,” and the relevant provisions contained in NCWM Publication 14. An active Certificate represents the intent of the holder to continue to manufacture or remanufacture the device consistent with the approved type and in conformance with the applicable requirements. A device is traceable to an active CC if: (a) it is of the same type identified on the Certificate, and (b) it was manufactured during the period that the Certificate was maintained in active status. For manufacturers of grain moisture meters, maintenance of active status also involves annual participation in the NTEP Laboratory On-going Calibration Program, OCP (Phase II). An inactive Certificate of Conformance is a Certificate which was previously active, but the devices are no longer being manufactured for commercial applications subject to local regulations or laws. However, devices already manufactured, installed or in inventory, but not yet sold, may be used, sold, repaired and resold under inactive Certificates of Conformance.

- In the definition of National Type Evaluation Program (NTEP) replace the term “operated” with “administered” as this is consistent with the description in Pub 14 Administrative Policy.

Item Block 1 (B1) Transfer Standard

NIST OWM Executive Summary for Item Block 1 (B1) – Transfer Standard

NIST OWM Recommendation: Voting

- OWM supports amending these items to replace the term “Field Standard Meter” with “Transfer Standard”, which is now a defined term in NIST Handbook 44 and amend the language to be consistent with similar paragraphs in other sections.
- Each of these Items Under Consideration in the S&T portion of Pub 15 should be edited to reflect the correct format prescribed by NCWM to identify changes to be made to the handbook as shown under the Item Under Consideration in this analysis as the intent is to amend these paragraphs and not replace them.

NIST OWM Executive Summary for Item Block 1 (B1) – Transfer Standard

- In addition, in the S&T portion of Pub 15, the description in the Item under Consideration for MFM-24.1 specifies the item will amend the “Handbook 44 Milk Meters Code”. This should be edited to reflect that this item is intended to amend the Mass Flow Meter Code of NIST Handbook 44.