OWM Technical Analysis

NIST | OFFICE OF WEIGHTS AND MEASURES

Laws and Regulations (L&R) Committee Agenda Items:

Full Analysis

In preparation for the 2026 Interim Meeting of the National Council on Weights and Measures (NCWM) on January 11-14, 2026

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NIST Office of Weights and Measures (OWM)
Analysis Laws and Regulations (L&R)
2026 NCWM Interim Meeting Agenda

Due to a lapse in appropriations, the U.S. Government was shut down from October 1, 2025, to November 12, 2025. Subsequently, NIST OWM was unable to provide a complete review and analysis for some of the items on the 2026 NCWM Interim Meeting agenda.

For those agenda items that did not receive a full technical analysis and review by OWM, we have provided updated information on regional recommendations and comments from their meetings, for your convenience. OWM will continue to research and review all items for the 2026 NCWM Annual in July.

The NIST OWM Analysis is submitted to assist the Weights and Measures community as it deliberates on items before the Council. NIST OWM offers these comments and recommendations based upon information and input available as of the date of this report. This does not address information received after this date.

Language shown in boldface print by **~~striking out~~** information to be deleted and **<u>underlining</u>** information to be added. Requirements that are proposed to be nonretroactive are printed in boldfaced italics.

Assessment of items contained within this report is as of November 17, 2025 and does not address information received after this date.

For additional information or assistance please contact a NIST OWM Technical Advisor:

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Subject Series List - Laws and Regulations Committee

Handbook 130 – General ..... GEN Series

Uniform Laws
- Uniform Weights and Measures Law ..... WAM Series
- Uniform Weighmaster Law ..... WMR Series
- Uniform Fuels and Automotive Lubricants Inspection Law ..... FLL Series

Uniform Regulations
- Uniform Packaging and Labeling Regulation ..... PAL Series
- Uniform Regulation for the Method of Sale of Commodities ..... MOS Series
- Uniform Unit Pricing Regulation ..... UPR Series
- Uniform Regulation for the Voluntary Registration of Servicepersons and Service Agencies for Commercial Weighing and Measuring Devices ..... RSA Series
- Uniform Regulation for National Type Evaluation ..... NTP Series
- Uniform Fuels and Automotive Lubricants Regulation ..... FLR Series

Examination Procedure for Price Verification ..... PPV Series

NCWM Policy, Interpretations, and Guidelines ..... POL Series

Handbook 133 ..... NET Series

Other Items ..... OTH Series

Table 1. Reporting Structure

Note: The analysis considered information and comments submitted as of the date of this analysis and will not reflect any information presented after that date.

Source: Name and affiliation of submitter.

Submitter's Purpose and Justification: The submitter's concise statement as to the intent or purpose of this proposal. The justification describes the national importance, background on the issue, and may contain references to supporting data or documents. The justification may be summarized by OWM.

NIST OWM Executive Summary: High level points that summarize the Technical Aspects of the item and recommendations pertaining to the Item Under Consideration.

Table 2. Summary of Recommendations

Item Under Consideration – The latest language that the Committee has moved forward as the Item membership is considering. OWM has applied the appropriate formatting according to NIST Handbooks.

NIST OWM Detailed Technical Analysis – A detailed analysis with background information and recommendations from the Office of Weights and Measures (OWM).

Summary of Discussions and Actions – An OWM summary of details and discussion on this Item. This includes discussion and decisions of the Standing Committee. This may also include information from sectors, trade associations, task groups, and subcommittees.

Regional Association Reporting – An OWM summarization of the Regional Association Meeting finalized reports.

- Each region will be identified by their regional acronym along with the year and meeting.
- The meeting within each region will be in chronological order.
- This information is taken directly from the Regional Association Final report.
- The Technical Advisor may reach out to the regional Chair for clarification.

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Details of All Items
(In order by Reference Key)

PAL – UNIFORM PACKAGING AND LABELING REGULATION

PAL-26.1 – 6.3. Net Quantity

Source: CPR Squared

Submitter's Purpose and Justification:

To enhance consumer safety and reduce the financial burden of product recalls by mandating dynamic QR codes unique to each production batch on consumer package labels. Currently, inadequate batch-specific labeling leads to broader, costlier recalls, with an average direct cost of $10 million per food recall and approximately $7 billion in annual U.S. economic losses due to foodborne outbreaks. These inefficiencies expose consumers to heightened health risks, with 48 million annual foodborne illness cases, 128,000 hospitalizations, and 3,000 deaths. Dynamic QR codes enable precise tracking, targeted recalls, and real-time safety information access, minimizing health risks, reducing unnecessary product waste, and lowering economic losses for businesses and consumers.

Original Justification:

Current labeling practices often use generic information that does not distinguish between batches, complicating recalls and exposing consumers to unnecessary dangers. Dynamic QR codes per batch provide a secure, updatable mechanism for tracking products from production to consumption, enabling swift, targeted recalls for specific batches (e.g., due to contamination or mislabeling). This approach reduces the scope of recalls, prevents widespread panic, minimizes economic losses, and empowers consumers with instant access to safety information via their smartphones, fostering greater trust and protection. Nationally, this addresses inconsistencies in recall efficiency across states and aligns with federal initiatives for food safety and traceability, such as those from the FDA.

Concern: Mandating dynamic QR codes increases costs for manufacturers, especially small businesses, due to labeling and database maintenance expenses.

Rebuttal: Many food and beverage products already include voluntary QR codes, so switching to dynamic QR codes is a simple change that leverages existing infrastructure. Affordable platforms exist for about $50/month.

Concern: Consumers without smartphones or internet access may be unable to scan QR codes, limiting accessibility.

Rebuttal: Voluntary QR codes are already common, and dynamic QR codes can include printed batch numbers or toll-free lines as alternatives, ensuring inclusivity while improving safety.

Concern: Dynamic QR codes are vulnerable to hacking, risking consumer data or fraudulent redirects.

Rebuttal: Many food and beverage products use voluntary QR codes securely; dynamic QR codes with ISO/IEC 18004 standards and encrypted links enhance safety, with audits preventing cyber risks.

Concern: Adding dynamic QR codes complicates labeling, potentially confusing consumers or cluttering packaging.

Rebuttal: Since many food and beverage products already feature voluntary QR codes, switching to dynamic ones is a minor adjustment that integrates seamlessly, enhancing safety with clear instructions.

Concern: Small manufacturers lack expertise to implement dynamic QR code systems.

Rebuttal: Voluntary QR codes are already widely used; transitioning to dynamic codes is straightforward with user-friendly platforms and NCWM support, boosting consumer safety.

Concern: QR code scanning may fail in areas with poor internet, hindering safety information access.

Rebuttal: Many food and beverage products use voluntary QR codes effectively; dynamic codes can include offtine-readable data, and infrastructure improvements ensure broader safety benefits.

Concern: Mandating QR codes may reduce reliance on traditional safety communication methods.

Rebuttal: Voluntary QR codes already complement labels; dynamic QR codes enhance this system, providing batch-specific safety data without replacing existing disclosures/

Concern: Maintaining dynamic QR code databases is resource-intensive for manufacturers and regulators.

Rebuttal: Many food and beverage products already manage voluntary QR code databases; dynamic systems use scalable cloud solutions, simplifying the shift for enhanced recall safety.

Concern: Consumers may distrust QR codes due to privacy concerns, reducing adoption.

Rebuttal: Voluntary QR codes are widely accepted; dynamic codes with transparent, anonymized data policies build trust, improving safety through better recall access.

Concern: Small retailers may struggle to verify dynamic QR code compliance, increasing burden.

Rebuttal: With voluntary QR codes already in use, dynamic codes are a simple upgrade, and NCWM guidelines can streamline retailer verification for safety compliance.

Concern: Dynamic QR codes could be counterfeited, leading to fraudulent recalls or misinformation.

Rebuttal: Voluntary QR codes already exist securely; dynamic codes with cryptographic signatures ensure authenticity, enhancing consumer safety and recall precision.

Concern: Industry may resist QR code mandates, prioritizing cost over safety.

Rebuttal: Many food and beverage products already use voluntary QR codes, so dynamic codes are a low-cost shift that reduces recall costs and boosts consumer safety, aligning with industry goals.

Concern: QR code mandates may delay product launches due to compliance timelines.

Rebuttal: Voluntary QR codes are common; transitioning to dynamic codes by January 1, 2027, is a simple change that aligns with existing processes, prioritizing safety.

Concern: Not all consumers will scan QR codes, limiting safety benefits. Rebuttal: Voluntary QR codes are already scanned by many; dynamic codes enhance safety for those who use them, complementing traditional labels for broader impact. Batch number can be looked up on mfgr website.

Concern: QR codes may not integrate with existing recall processes, causing inefficiencies.

Rebuttal: Many food and beverage products use voluntary QR codes; dynamic codes align with FDA/USDA protocols, simplifying recalls and improving consumer safety outcomes.

Concern: Mandating dynamic QR codes for batch-specific traceability on food and beverage package labels is a regulatory action that falls under the FDA's jurisdiction, as the FDA oversees food safety and labeling requirements under the Federal Food, Drug, and Cosmetic Act and the Food Safety Modernization Act. The NCWM's role is limited to weights and measures, and imposing QR code requirements exceeds its authority, potentially creating overlapping or conflicting federal and state regulations.

Rebuttal: The NCWM has clear authority under NIST Handbook 130 to establish uniform labeling standards for consumer commodities, including food and beverage products, to ensure accurate and consumer-relevant information, as seen in existing regulations like Section 6. The proposed dynamic QR code requirement complements FDA regulations, such as FSMA's traceability provisions, by providing a state-level mechanism to enhance recall precision and consumer safety without conflicting with federal rules. The NCWM's focus on batch-specific labeling aligns with its mission to standardize packaging information, and coordination with FDA guidelines (e.g., ISO/IEC 18004 standards for QR codes) ensures harmony. States adopting this amendment can implement it as part of their weights and measures programs, which already regulate food labeling, thereby supporting rather than duplicating FDA efforts.

The submitter requested Voting status in 2026.

NIST OWM Executive Summary

PAL-26.1 – Section 6.3 Net Quantity

NIST OWM Recommendation: Withdrawal

- NIST OWM recommends withdrawing this item as it does not belong in the Uniform Package and Labeling Regulations (UPLR) because it does not pertain to the net content regulation. Within the submitter's justification, it states that QR codes are "To enhance consumer safety and reduce the financial burden of product recalls by mandating dynamic QR codes unique to each production batch on consumer package labels."

- All four regions have stated that this is not a WM issue. NIST OWM, in consultation with the FDA, agrees that QR codes do not fall under the Net Content Fair Package and Labeling Act (FPLA) and the UPLR regulations.

Table 2. Summary of Recommendations
PAL-26.1 – Section 6.3 Net Quantity

	Status Recommendation	Note*	Comments
Submitter	Voting		
OWM	Withdrawal		
WWMA	Withdrawal		
NEWMA	Withdrawal		
SWMA	Assigned		
CWMA	Withdrawal		
NCWM			

	Number of Support Letters	Number of Opposition Letters	Comments
Industry			
Manufacturers			
Retailers and Consumers			
Trade Association			

***Notes Key:**
1. Submitted modified language
2. Item not discussed
3. No meeting held
4. Not submitted on agenda
5. No recommendation or not considered

Item Under Consideration:

Amend NIST Handbook 130 Uniform Packaging and Labeling Regulation as follows:

6.3. Net Quantity. – A declaration of net quantity of the commodity in the package, exclusive of wrappers and any other material packed with such commodity (except as noted in Section 10.3. Aerosols and Other Pre-pressurized Containers Dispensing Product Under Pressure), shall appear on the principal display panel of a consumer package and, unless otherwise specified in this regulation (see Sections 6.6. Prescribed Units, SI, through 6.9. Bi-dimensional Commodities), shall be in terms of the largest whole unit.

6.3.1. Use of "Net Mass" or "Net Weight." – When stating the net quantity of contents in terms of weight a quantity declaration may stand alone [e.g., "200 g (7 oz)" or "1 lb (453 g)"] or may include the term "net mass" or "net weight" either preceding or following the declaration. The term "net" by itself may be used on food labels. However, the quantity of contents shall always declare the net quantity of contents even when such terms are not used.
(Amended 1993)

6.3.2. Use of "Net Contents". – When stating the net quantity of contents in terms of fluid measure or numerical count, a quantity declaration may stand alone [e.g., "177 mL (6 fl oz)"] or may include the term "net" or "net contents" either preceding or following the declaration.
(Amended 2019)

6.3.3. Lines of Print or Type. – A declaration of quantity may appear on one or more lines of print or type. (Amended 1982)

6.3.X Dynamic QR Code –

(a) Requirement: All food and beverage consumer packages subject to this regulation shall include a dynamic QR code unique to each production batch on the label. The dynamic QR code shall link to a secure, updatable digital platform providing real-time information on product safety, recall status, and traceability details, compliant with ISO/IEC 18004 standards.

(b) Content: The digital platform accessible via the dynamic QR code shall include, at minimum:

1. **Batch identification number.**
2. **Production and expiration dates.**
3. **Recall status, if applicable, including details of any safety alerts or corrective actions specific to food safety (e.g., contamination, allergen mislabeling).**
4. **Contact information for the manufacturer or responsible entity.**
5. **Traceability data, such as the source of ingredients or production facility, where relevant to food safety.**

(c) Accessibility: To ensure inclusivity, food and beverage packages shall also display the batch identification number in human-readable form and provide a toll-free telephone number or website URL as alternative methods to access the information specified in paragraph (b).

(d) Security: Dynamic QR codes shall incorporate encrypted links and cryptographic signatures to prevent unauthorized access, tampering, or fraudulent redirects, adhering to industry-standard cybersecurity protocols.

(e) Implementation: This requirement shall apply to all food and beverage consumer packages produced on or after January 1, 2027, to allow sufficient time for manufacturers to adapt labeling processes and establish digital infrastructure.

(f) Exemptions: Food and beverage consumer packages exempt from this requirement include those with a net weight or volume less than 10 grams or 10 milliliters, or as otherwise determined by the National Conference on Weights and Measures, where labeling space constraints render compliance impractical.

NIST OWM Detailed Technical Analysis:

NIST OWM believes this item does not have merit and recommends withdrawing this item as it does not belong in the Uniform Package and Labeling Regulations (UPLR) because it does not pertain to the net content regulation. Within the submitter's justification, it states that QR codes are “To enhance consumer safety and reduce the financial burden of product recalls by mandating dynamic QR codes unique to each production batch on consumer package labels.” All four regions have stated that this is not a WM issue. NIST OWM, in consultation with the FDA, agrees that QR codes do not fall under the Net Content UPLR regulations. To implement the QR code, the submitter would need to address the food requirements within the FSIS, and this should be coordinated and worked through the FDA. However, nothing precludes the industry from adding QR codes voluntarily.

Summary of Discussions and Actions:

This item is new to the NCWM 2026 agenda.

Regional Association Reporting:

Western Weights and Measures Association

At the 2026 WWMA Annual Meeting (September 2025), The committee received comments from Ms. Wendy Hahn (County of Stanislaus, California), Mr. Aaron Yanker (Colorado Department of Agriculture, Weights and Measures), Mr. Jose Arriaga (County of Orange, California), Mr. Mike Brooks (Arizona Department of Agriculture Weights and Measures Services Division), Mr. Kurt Floren (County of Los Angeles, California), Mr. Austin Shepherd (County of San Diego, California), and Mr. Matt Douglas (California Division of Measurement Standards) with a general consensus that this is not a Weights and Measures issue and recommending that the item be withdrawn.

Some of the comments heard also included that this might be an FDA jurisdictional matter; that this might be better addressed by, or included in, the Food Safety Modernization Act; or that this might be a Public Health jurisdictional matter.

Other concerns raised included that this may increase production costs and create gaps in usability for non-smart phone users. Enforcement concerns were also heard including that Weights & Measures officials do not have the authority to implement broad recalls as well as the concern that this is not just a matter of verifying that the quick response (QR) code is present but also that the information provided by use of the QR code is accurate.

The WWMA L&R committee recommends the item be withdrawn.

Southern Weights and Measures Association

At the SWMA Annual Meeting (October 2025), Mr. Tory Brewer with West Virginia commented that this is not a weights and measures issue. That the item specifically asks for there to be a requirement for recalls. He opposes this item and recommends Withdraw.

Matthew Curran, Florida – recommend forwarding this item and asking that it be Assigned to PALS for further evaluation and vetting. He believes the topic has potential merit and use beyond the weights and measures realm but need to ensure it is weights and measures related before going into the Handbooks. There are currently food products in Florida that are required to have QR codes for required consumer information and there are many companies that have elected to add QR codes on their products, so the concept is currently utilized. He also would caution against exclusions (as proposed) as this may create unintended loopholes, if not written properly.

Ms. Alison Wilkinson with the state of Maryland echoes Florida in that the item be Assigned to PALS

Mr. Jason Glass with the state of Kentucky recommends an editorial change with section 6.3.X (f). To edit "conference" to "council" within the section.

6.3.X Dynamic QR Code –

(f) Exemptions: Food and beverage consumer packages exempt from this requirement include those with a net weight or volume less than 10 grams or 10 milliliters, or as otherwise determined by the National Conference Council on Weights and Measures, where labeling space constraints render compliance impractical.

The Committee has referenced the recommended editorial changes to this item and based on the comments made from the floor, believes this item has merit and recommends Developing status.

Northeastern Weights and Measures Association

At the NEWMA Interim Meeting (October 2025) A regulator from New York commented they are not opposed to QR codes, but feels it is not a weights and measures issue, and indicated they do not enforce food safety regulations. A regulator from New Jersey commented that this is not a weights and measures issue, but may be geared toward FDA or FTC regulations, and recommended a Withdrawn status. A regulator from Vermont agreed with New York and New Jersey.

After hearing comments from the floor, the committee recommended a Withdrawn status, and the body concurred.

Central Weights and Measures Association

At the CWMA Interim Meeting (September 2025) Questions were brought up as to how this really applies to Weights & Measures and one individual wanted the item withdrawn. Nothing currently exists that would prohibit an entity from adding a dynamic QR code of this nature.

The CWMA L&R committee recommends the item be withdrawn.

MOS – UNIFORM REGULATION FOR THE METHOD OF SALE OF COMMODITIES

MOS-24.2 – 2.16.3.1. Tare Weights, Part (c) Allowable difference

Source: National Propane Gas Association

Submitter's Purpose and Justification:

Resolve the discrepancy that exists between Handbook 130 and Title 49 of the Code of Federal Regulations with respect to the allowable differences between the stamped tare weight and the actual tare weight of cylinders used for compressed or liquefied gases in refillable cylinders.

Original Justification:

The data presented in NIST Special Publication, "NIST SP 2200-01, 2022 NCWM-NIST National Survey on 20 lb LPG (Propane) Cylinders," is sufficient evidence that the tolerances imposed in Handbook 130 on the marking of tare weights for propane cylinders are not in sync with the real world. For example, the report states that "nearly half (44.3%) of new cylinders and significantly less (32.0% of used cylinders were in compliance with existing tare weight requirements," (in reference to the current Handbook 130 requirements). Which means, of course, that the great majority of cylinders, even new cylinders, were not in compliance. The reasons for that include the following:

- As quoted from the report, "Initial assessments suggest that cylinder manufactures use a tolerance of 1%, which is primarily based on Measurement Canada's requirement of 1%." If a cylinder's tare weight can vary +/- 1% from stamped value as manufactured, a cylinder's actual tare weight cannot be expected to be within +/- 0.5% of the marked value after the cylinder at any point in time thereafter.

- For practical reasons, some manufacturers may use a statistical method to arrive at an average tare weight based on previous measurements of a sufficiently large sample pool. Whatever variance there may be in the actual weight of the cylinder versus the marked tare weight, the fact is that over 98% of the new cylinders weighed were in compliance with the DOT tolerances.

- The following statement from the report is very telling: "It is highly unusual and irregular to see a tolerance where a very significant majority of the packages are in compliance (in this case, 98.4%)." The report goes on to state that 34.3% of "used" cylinders would not be in compliance with the DOT tolerances. These two statements call attention to the fact that these grill cylinders are in constant circulation, subject to a wide variety of conditions, treatment and possible abuse by potentially many different customers, thereby underlining the need to steer clear of overburdensome and unwarranted regulation.

- Scales utilized in most retail locations where cylinders are filled are beam scales which do not have the capability of weighing cylinders to the sensitivity or number of decimal places necessary to verify the initial tare weight while a cylinder is under vacuum using Handbook 130 requirements. Additionally, there is no requirement in any national code or standard to fill cylinders by weight at the point of sale when the cylinder is transported for non-commercial use. These cylinders are not considered to be transported "in commerce" and are therefore not required to be filled by weight, thereby allowing for the determination of maximum fill level using the fixed maximum liquid level gauge. Scales are not required to be installed at these facilities.

- Even when the product is released to the atmosphere to "empty" the cylinder, there will always be some amount of liquid and vapor remaining in the cylinder, unless the cylinder has been put under vacuum. The liquid, of course, is much denser than air and the vapor in the cylinder is 1.5 times the weight of the air that was in the sample cylinders when they were weighed to establish the "average" tare weights.

- A minus tolerance of -3% will not result in extreme loss to the propane marketer in most cases, because the overfilling prevention device (OPD) will activate and prevent the overfilling of the cylinder in the vast majority of cases. As stated in the report, only 1.1% of all cylinders tested exceeded the legal filling limit. Considering the time of year that this project was undertaken and in some northern states, it is very likely that some of those cylinders may have been filled volumetrically when the temperature was below 40 °F, it would not be unusual that more product was put into the cylinder because the OPD is calibrated to the maximum fill at 40 °F and the liquid density increases as the temperature gets colder.

- The price for a pound of propane as stated in the report seems high, as it would equate to $5.51 per gallon (4.24 lbs. per gallon). The Department of Energy published the average cost of propane in 2022 and it was shown to be $2.23 per gallon.

Opposing arguments may take the following form:

- "The purpose of Handbook 130 is to ensure that the customer gets what he pays for and that the propane marketer doesn't lose out, either." The rebuttal to this argument from the standpoint of the customer is provided in the justification in number 18 above. From the marketer's standpoint, the fact that the vast majority of retail gallons sold in the U.S. are sold by NPGA members and that those very members endorsed this proposal is evidence that marketers are not concerned about the small quantities of gas that may not be billed to the customer.

- "We should make DOT change their tolerances instead of NCWM changing theirs." The fact is that NCWM allowable differences are so unreasonable that 56% of newly manufactured cylinders were

not in compliance with them. That should be reason enough to realize that NCWM needs to change. In addition, once gas is put into a cylinder, there will always be a little bit of liquid remaining in the cylinder unless it is vacuum purged or opened to the atmosphere. This means that accurately measuring the tare weight of a cylinder becomes very difficult unless specific procedures are followed to ensure that the cylinder is truly "empty."

The submitter requested that this be a voting item in 2024 and a retroactive requirement, enforceable to all devices.

NIST OWM Executive Summary

MOS-24.2 – 2.16.3.1. Tare Weights, Part (c) Allowable difference

NIST OWM Recommendation: Voting

- NIST OWM believes this item is fully developed and ready for a Vote with amended language changes shown in the detailed analysis. This language change directly aligns to 49 CFR § 178.35. NIST OWM, DOT, and Industry agree that the proposed language is correct and aligns with the current DOT regulation.
- NIST Handbook 130 Section 2.16.3.1 does not reflect the most current regulation for allowable differences in LPG Tare Weights. Accepting the proposed language will harmonize NIST Handbook 130 with the DOT regulations. As it stands, the NIST Handbook 130 Method of Sale is in conflict with **49 CFR § 178.35,** which would invoke federal preemption if a user were to follow the current HB 130 regulation.
- The NCWM is a standard-setting organization and needs to reflect the most current regulations as they pertain to Laws, Regulations, and devices. Our mission is to ensure equity and Uniform standards.
- If this item is adopted, NIST Handbook 133, Section 3.13.2. should also be amended to reflect the proper tolerance application.

Table 2. Summary of Recommendations

MOS-24.2 – 2.16.3.1. Tare Weights, Part (c) Allowable difference

	Status Recommendation	Note*	Comments
Submitter	Voting		
OWM	Voting		With amended language
WWMA	Voting		
NEWMA	Voting		
SWMA	Voting		
CWMA	Informational		
NCWM			

	Number of Support Letters	Number of Opposition Letters	Comments
Industry			
Manufacturers			
Retailers and Consumers			
Trade Association			

***Notes Key:**

1. Submitted modified language
2. Item not discussed
3. No meeting held
4. Not submitted on agenda
5. No recommendation or not considered

Item Under Consideration:

Amend NIST Handbook 130 Uniform Regulation for the Method of Sale of Commodities as follows:

2.16.3.1. Tare weights.

…

(c) **Allowable difference.** – If the stamped or stenciled tare is used to determine the net contents of the cylinder, the allowable difference between the actual tare weight and the stamped (or stenciled) tare weight, or the tare weight on a tag attached to the cylinder **for a new or used cylinder, shall be within**:

(1) For cylinders manufactured prior to December 28, 2022, shall be within:

i. ½ % for tare weights of 9 kg (20 lb) or less; or

ii. ¼ % for tare weights of more than 9 kg (20 lb).

(2) For cylinders manufactured on or after December 28, 2022, shall be within the following limits prescribed by general requirements for specification cylinders, 49 C.F.R. § 178.35:

i. For a cylinder of 25 lb or less at the time of manufacture, a lower tolerance of (-) 3 % and an upper tolerance of (+) 1 %; or

ii. For a cylinder exceeding 25 lb at the time of manufacture, a lower tolerance of (-) 2 % and an upper tolerance of (+) 1 %.

NOTE: Failure of a cylinder tare weight to be within the required allowable difference is considered a Method of Sale violation. The cylinder shall be removed from use until the tare weight is corrected.

NIST OWM Detailed Technical Analysis:

NIST OWM believes this item is fully developed and ready for a Vote with amended language changes shown in the detailed technical analysis.

NIST Handbook 130 Section 2.16.3.1 does not reflect the most current regulation for allowable differences in LPG Tare Weights. Accepting the proposed language will harmonize NIST Handbook 130 with the DOT regulations. As it stands, the NIST Handbook 130 Method of Sale is in conflict with 49 CFR § 178.35, which would invoke federal preemption if a user were to follow the current HB 130 regulation.

The NCWM is a standard-setting organization and needs to reflect the most current regulations as they pertain to Laws, Regulations, and devices. Our mission is to ensure equity and uniform standards.

The language under consideration includes two sets of tolerances:

(1) for cylinders manufactured prior to December 28, 2022, and

(2) for cylinders manufactured after December 28, 2022.

There is also a difference in the way the tolerances are determined.

For cylinders produced before December 28, 2022, the value of the tare weight (20 lb or less or more than 20 lb) determines which tolerance is applicable. This is based on the current language in MOS 2.16.3.1. Tare Weights.

For cylinders produced after December 28, 2022, the language is less informative. In part (i), the Item Under Consideration refers to "**a cylinder** of 25 lb or less at the time of manufacture", and in part (ii), it refers to "**a cylinder** exceeding 25 lb at the time of manufacture".

While the intent is for the "stamped or stenciled tare" to be compared to the "actual tare weight" of the cylinder, the proposed language, which only refers to "a cylinder," is somewhat ambiguous in its intent. The CFR refers to the "tare weight for a cylinder 25 pounds or less at the time of manufacture…or for a cylinder exceeding 25 pounds at the time of manufacture". This language is clear in its interpretation, i.e., the value of the tare weight determines the applicable tolerance.

OWM is suggesting the addition of the term "tare weight" and a reorganization of the paragraph to remove duplication of terms. Here's suggested language:

2.16.3.1. Tare weights.

…

(c) **Allowable difference.** – If the stamped or stenciled tare is used to determine the net contents of the cylinder~~, the allowable difference between the actual tare weight and the stamped (or stenciled) tare weight, or the tare weight on a tag attached to the cylinder~~ **for a new or used cylinder, shall be within**:

~~**(1) 1/2 % for tare weights of 9 kg (20 lb) or less; or**~~

~~**(2) 1/4 % for tare weights of more than 9 kg (20 lb).**~~

(1) the allowable difference between the actual tare weight and the stamped (or stenciled) tare weight, or the tare weight on a tag attached to the cylinder, for a new or used cylinder manufactured prior to December 28, 2022, shall be within:

i. 1/2 % for tare weights of 9 kg (20 lb) or less; or

ii. 1/4 % for tare weights of more than 9 kg (20 lb).

(2) the allowable difference between the actual tare weight and the stamped (or stenciled) tare weight, or the tare weight on a tag attached to the cylinder, for a new or used cylinder manufactured on or after December 28, 2022, shall be within:

i. for tare weights of 11 kg (25 lb) or less:

1. a lower tolerance of (-) 3 % and,

2. an upper tolerance of (+) 1 %; or

ii. for tares weight exceeding 11 kg (25 lb):

1. a lower tolerance of (-) 2 % and,

2. an upper tolerance of (+) 1 %.

As prescribed by general requirements for specification cylinders, 49 C.F.R. § 178.35

In addition to adding the language in NIST Handbook 130 Method of Sale (2.16.3.1. Tare weights), the L&R committee will also need to carry over the same language and insert it into NIST Handbook 133 Section 3.13.2 Note: The language can read the same and is provided below for consideration.

3.13.2 Test Procedures

a. Test Procedure for Cylinders Labeled by Weight

1. Follow Section 2.3.1. "Define the Inspection Lot." Use a "Category A" sampling plan in the inspection; select a random sample.

2. The cylinder should be marked or stenciled with a tare weight. The marked value may or may not be used by the filling plant when determining the net weight of those cylinders sold or filled by weight. If there is a tare weight marked on the net contents tag or directly on the cylinder, then an actual tare weight was determined at the time of fill. If there is no tare weight marked on a tag or on the cylinder, then the stamped or stenciled tare weight is presumed to have been used to determine the net contents.

Note: Check the accuracy of the stamped tare weights on empty cylinders whenever possible. ~~The actual tare weight must be within (a) 1/2 % of the stamped tare weight for 9.07 kg (20 lb) tare weights or less or (b) 1/4 % of the stamped tare weight for greater than 9.07 kg (20 lb) tare weights. (see~~ NIST Handbook 130, Method of Sale Regulation, Section 2.16. "Compressed or Liquefied Gases in Refillable Cylinders." establishes the allowable tolerance for cylinders based on the date of manufacture.

Summary of Discussions and Actions:

At the 2025 NCWM Annual meeting, John McGuire, NIST OWM, provided an update to the proposed language, which can be seen in the NIST OWM analysis. Matt Douglas (CA) opposes this item and requests moving to a Withdrawn status. He believes this is a a consumer protection issue that fall within safety parameters. Alison Wilkerson (MD) agrees with California, as she represents that stamped tare weights are not true weights. Chris Wagner, National Propane Gas Association (NPGA), supports the revised language as reflected in the NIST OWM analysis, as it clarifies the proposed language with the DOT regulations and in the supporting letter from the NPGA.

During the L&R work session, the committee decided to incorporate the NIST OWM proposed language, as shown below, and move the item forward for Voting.

(c) **Allowable difference.** – If the stamped or stenciled tare is used to determine the net contents of the cylinder, the allowable difference between the actual tare weight and the stamped (or stenciled) tare weight, or the tare weight on a tag attached to the cylinder **for a new or used cylinder, shall be within**:

(1) For cylinders manufactured prior to December 28, 2022, shall be within:

i. $^1/_2$ % for tare weights of 9 kg (20 lb) or less; or

ii. $^1/_4$ % for tare weights of more than 9 kg (20 lb).

(2) For cylinders manufactured on or after December 28, 2022, shall be within the following limits prescribed by General requirements for specification cylinders, **49 C.F.R. § 178.35**:

i. For a cylinder of 25 lb or less at the time of manufacture, a lower tolerance of (-) 3 % and an upper tolerance of (+) 1 %; or

ii. For a cylinder exceeding 25 lb at the time of manufacture, a lower tolerance of (-) 2 % and an upper tolerance of (+) 1 %.

NOTE: Failure of a cylinder tare weight to be within the required allowable difference is considered a Method of Sale violation. The cylinder shall be removed from use until the tare weight is corrected.

During the voting session, the NEWMA region supported this item; however, it did not pass and was returned to the committee.

At the 2025 NCWM Interim meeting, Chris Wagner, National Propane Gas Association (NPGA), recommends moving this item to vote with the language provided by the NPGA in the NEWMA 2024 Interim meeting, as shown in Pub 15. Based on the elimination of NAFTA, propane could still cross from Canada to the USA in cylinders. The DOT at that time decided to adopt the Canadian tolerance. This tolerance has been adopted, and according to Chris, the NCWM should be in harmony with DOT tolerances.

John McGuire, NIST OWM, recognizes the issues and recommends that this item remain Informational, and discussed the NIST OWM analysis. Matt Douglas, Division of Measurement Standards, agrees with the NIST position and asks to keep this Informational, as does Jim Willis, State of New York.

Chris Wagner, NPGA, provided the below language:

(c) Allowable difference. – If the stamped or stenciled tare is used to determine the net contents of the cylinder, the allowable difference between the actual tare weight and the stamped (or stenciled) tare weight, or the tare weight on a tag attached to the cylinder for a new or used cylinder, shall be within the following limits prescribed by in accordance with 49 CFR § 178.35.:

(1) ½ % for tare weights of 9 kg (20 lb) or less For a cylinder of 25 pounds or less at the time of manufacture, a lower tolerance of 3 percent and an upper tolerance of 1 percent; or

(2) ¼ % for tare weights of more than 9 kg (20 lb) For a cylinder exceeding 25 pounds at the time of manufacture, a lower tolerance of 2 percent and an upper tolerance of 1 percent.

At the 2024 NCWM Annual Meeting: On June 6, 2024, the DOT PHMSA posted in a Federal Register Notice for a "Request for Information," asking for input and feedback on 5 questions. This was a direct result of the NCWM Petition that was submitted. The DOT requested comments to be given by September 24, 2024. (Federal Register: Hazardous Materials: Request for Feedback on Tare Weight Marking Policy for Cylinders) Chris Wagner National Propane Association stated that prior to DOT final rule this was the only regulation in the market. Chris believes the Method of Sale (MOS) should be updated to reflect the new DOT rule as this will avoid confusion amongst industry and inspectors. Kevin Schnepp (Division of Measurement Standards California), CA does not adopt the MOS, yet the DOT regulations are based on safety. Therefore, NIST Handbook 130 is based on economics and should not be changed.

During the Laws and Regulation work session the committee decided to MOS-24.2 – Section 2.16.3.1. Tare Weights, (c) Allowable difference, to remain as an Informational item.

At the 2024 NCWM Interim Meeting: Bruce Swiecicki, National Propane Gas Association, NCWM Petition in front of U.S. Department of Transportation (DOT) requesting harmonization with Handbook 130 may take years and no date as to when the DOT may act. Supports DOT tolerance be adopted and suggests retroactive status for older cylinders. John McGuire NIST OWM awaiting response from petition to DOT. NIST OWM has contacted DOT in November of 2023 and has been informed this is out of staff review and leadership is determining how to proceed. Matt Douglas DOT are safety concerns not consumer concerns and a reasonable expectation that these tolerances should be met, and tare weights be accurate.

During the Laws and Regulations work session, the committee decided to grant time for the Department of Transportation to respond to the NCWM petition. The committee assigned this item as Informational.

Regional Association Reporting:

Western Weights and Measures Association

At the 2025 WWMA Interim Meeting (September 2025), Mr. Chris Wagner with the National Propane Gas Association (NPGA) stated that during the NCWM Annual Meeting both the National Institute of Standards and Technology (NIST) and NPGA testified in support of this joint proposal as currently written. As part of this testimony, both NIST and NPGA addressed the fact that the Department of Transportation (DOT) maintains a federal code prohibiting any other entity from imposing rules in conflict with 49 CFR. The current wording contained in 2.16.3.1. Tare Weights, Part (c) Allowable difference is in conflict with 49 C.F.R. § 178.35, and thusly prohibited by 49 C.F.R. § 107.202. It is NPGA's belief that the current proposal as written rectifies this conflict and allows DOT to continue to work through public comments submitted by the industry. Mr. Chris Wagner stated that he supports a voting status. Mr. Scott Simmons, representing P 20:10 Services LLC, expressed support for the item and agrees with Mr. Wagner's comments. Mr. Kurt Floren (County of Los Angeles, California) posed a question regarding whether the intention of the item was to cause a difference in enforcement based upon the 2022 date. Mr. Chris Wagner responded with a statement that this creates a cleaner proposal for Weights and Measures. The NPGA's opinion is that 49 CFR 107.202 could be interpreted to retroactively preempt the Weights and Measures tolerances, but the industry prefers a non-retroactive interpretation. Mr. Matt Douglas (California Division of Measurement Standards) expressed opposition because the consumer protection parameters fall within the safety requirements. Mr. Douglas was not aware of the CFR code regarding preemption referenced and would like more time to review.

The WWMA L&R committee recommends a voting status for this item.

At the WWMA 2024 Annual Meeting, Matt Douglas (Division of Measurement Standards - CA) says this item conflicts with California state law. He wants to await the results of DOT's survey. Loren Minnich

(NIST OWM) also is waiting for DOT's response. Mahesh Albuquerque (Division of Oil and Public Safety – CO) states that NCWM Board of Directors also awaits response from DOT.

The WWMA L&R Committee recommends this item remains informational.

Southern Weights and Measures Association

At the SWMA 2025 Annual Meeting (October 2025), Mr. Chris Wagner with NPGA provided the following comments:

DOT prohibits any other entity from imposing rules in conflict with 49 CFR with regard to the design, manufacturing, fabrication, marking, maintenance, reconditioning, repairing, or testing of a packaging or a container which is represented, marked, certified, or sold as qualified for use in the transportation of hazardous materials. The current wording contained in 2.16.3.1. Tare Weights, Part (c) Allowable difference conflicts with 49 C.F.R. § 178.35, and thusly prohibited by law. It is NPGAs belief that the current proposal as written rectifies this conflict and allows DOT to continue to work through public comments submitted by the industry. The specific language contained in DOTs preemption rule is listed below.

49 CFR § 107.202 Standards for determining preemption.

(a) Except as provided in § 107.221 and unless otherwise authorized by Federal law, any requirement of a State or political subdivision thereof or an Indian tribe that concerns one of the following subjects and that is not substantively the same as any provision of the Federal hazardous materials transportation law, a regulation issued under the Federal hazardous material transportation law, or a hazardous material transportation security regulation or directive issued by the Secretary of Homeland Security that concerns that subject, is preempted:

(1) The designation, description, and classification of hazardous material.

(2) The packing, repacking, handling, labeling, marking, and placarding of hazardous material.

(3) The preparation, execution, and use of shipping documents pertaining to hazardous material and requirements related to the number, content, and placement of those documents.

(4) The written notification, recording, and reporting of the unintentional release in transportation of hazardous material and other written hazardous materials transportation incident reporting involving State or local emergency responders in the initial response to the incident.

(5) The design, manufacturing, fabrication, marking, maintenance, reconditioning, repairing, or testing of a packaging or a container which is represented, marked, certified, or sold as qualified for use in the transportation of hazardous material.

He supports this item and recommends moving forward with Voting status.

The Committee has considered the comments and finds this item to be fully developed and recommends a Voting status.

At the SWMA 2024 Annual Meeting, John McGuire NIST OWM stated that NCWM is waiting on US DOT response to NCWM letter.

At the 2023 SWMA Annual Meeting, based on comments received during open hearings and the fact the National Conference on Weights and Measures sent a petition to DOT to evaluate tolerances on tare, the SWMA recommends this item be informational awaiting response from DOT.

The Committee would like to acknowledge the language recommended by OWM for 2.16.3.1.(c) and as shown below:

(c) **Allowable difference.** – If the stamped or stenciled tare is used to determine the net contents of the cylinder, the allowable difference between the actual tare weight and the stamped (or stenciled) tare weight, or the tare weight on a tag attached to the cylinder ~~**for a new or used cylinder, shall be within**~~:

(1) For cylinders manufactured prior to December 28, 2022 shall be within:

~~(1)~~i. ½ % for tare weights of 9 kg (20 lb) or less; or

~~(2)~~ii. ¼ % for tare weights of more than 9 kg (20 lb).

(2) For cylinders manufactured on or after December 28, 2022 shall be within the following limits prescribed by General requirements for specification cylinders, 49 C.F.R. § 178.35:

i. For a cylinder of 25 lbs or less at the time of manufacture, a lower tolerance of 3 % and an upper tolerance of 1 %; or

ii. For a cylinder exceeding 25 lbs at the time of manufacture, a lower tolerance of 2 % and an upper tolerance of 1 %.

NOTE: Failure of a cylinder tare weight to be within the required allowable difference is considered a Method of Sale violation. The cylinder shall be removed from use until the tare weight is corrected.

Northeastern Weights and Measures Association

At the 2025 NEWMA Interim Meeting (October 2025), a regulator from New Jersey commented that they are not in favor of this item as the tolerances are too large. However, due to not receiving any feedback from USDOT, the item is fully developed to be aligned with the federal code and recommends a Voting status.

After hearing comments from the floor, the committee recommended a Voting status, and the body concurred.

At the 2025 NEWMA Annual meeting in Burlington VT, John McGuire, NIST OWM – Provided updated proposal language to L&R committee by email on 4/28/2025 this language is included below:

NIST proposed language:

(c) **Allowable difference.** – If the stamped or stenciled tare is used to determine the net contents of the cylinder, the allowable difference between the actual tare weight and the stamped (or stenciled) tare weight, or the tare weight on a tag attached to the cylinder ~~**for a new or used cylinder, shall be within**~~:

(1) For cylinders manufactured prior to December 28, 2022, shall be within:

i. 1/2 % for tare weights of 9 kg (20 lb) or less; or

ii. 1/4 % for tare weights of more than 9 kg (20 lb).

(2) For cylinders manufactured on or after December 28, 2022, shall be within the following limits prescribed by General requirements for specification cylinders, 49 C.F.R. § 178.35:

i. For a cylinder of 25 lb or less at the time of manufacture, a lower tolerance of (-) 3 % and an upper tolerance of (+) 1 %; or

ii. For a cylinder exceeding 25 lb at the time of manufacture, a lower tolerance of (-) 2 % and an upper tolerance of (+) 1 %.

NOTE: Failure of a cylinder tare weight to be within the required allowable difference is considered a Method of Sale violation. The cylinder shall be removed from use until the tare weight is corrected.

John McGuire, NIST OWM – In collaboration with Chris Wagner of the NPGA, agrees that the proposed language by NIST shall be the final language. This proposal will harmonize Handbook 130 with **49 C.F.R. § 178.35**. The only difference is the (-) and (+) signs in section 2 of the proposal.

Chris Wagner, NPGA – Is in agreement with John McGuire's (NIST OWM) proposed changes. Supports the new proposal.

Steve Timar, New York – Previously opposed. Supports the new language going forward.

At the NEWMA 2024 Interim Meeting, Chris Wagner, National Propane Gas Association – Offered a change to this item (email containing offered language change submitted with this report), see below:

(c) Allowable difference. – If the stamped or stenciled tare is used to determine the net contents of the cylinder, the allowable difference between the actual tare weight and the stamped (or stenciled) tare weight, or the tare weight on a tag attached to the cylinder for a new or used cylinder, shall be ~~within the following limits prescribed by~~ in accordance with 49 CFR § 178.35.~~:~~

~~(1) ½ % for tare weights of 9 kg (20 lb) or less For a cylinder of 25 pounds or less at the time of manufacture, a lower tolerance of 3 percent and an upper tolerance of 1 percent; or~~

~~(2) ¼ % for tare weights of more than 9 kg (20 lb) For a cylinder exceeding 25 pounds at the time of manufacture, a lower tolerance of 2 percent and an upper tolerance of 1 percent~~

Steve Timar, New York – Against, believes the change (increase) to a 3% tolerance is a safety concern as many fillers use the safety device (Overfill Prevention Device, OPD) to determine if the cylinder is full rather than the appropriate method for filling, by weight. Cheryl Ayer, New Hampshire – Reminds the council that we are pending feedback from DOT, and we should take that decision into consideration before moving further on this item. Believes this item should remain informational. Jason Flint, New Jersey – Agrees with New Hampshire's position. This item should remain informational.

Walt Remmert, Pennsylvania – Also agrees with New Hampshire's position. This item should remain informational.

At the 2024 NEWMA Annual meeting, John McGuire, NIST OWM, offered comments that at the end of March 2024, NIST OWM reached out to the Department of Transportation and the DOT is considering next steps. These steps may include reaching out to the regulated community of cylinder manufacturers, fillers, users, and other interested parties for additional information.

NEWMA L&R agrees that this item should remain Informational.

At the 2023 NEWMA Interim Meeting, Steven Timar (New York) is concerned that this adversely affects the existing tolerances (increase) and could be a safety issue if the tank is overfilled (relying on the blow off valve).

Jason Flint (New Jersey) agreed with New York on this issue. This item shouldn't move forward without receiving response from U.S. DOT concerning their position on the item.

Cheryl Ayer (New Hampshire) agreed with New York and New Jersey. Walter Remmert (Pennsylvania) and Lou Sakin (Holliston, Massachusetts) believe it should be Withdrawn.

Central Weights and Measures Association

At the CWMA Interim Meeting (September 2025), there were no comments. The CWM L&R committee recommends an information status for this item.

At the May 2025 Annual CWMA meeting, Bruce Swiecicki, National Propane Gas Association, NPGA – The US DOT has not taken any action yet. He recommends waiting until the DOT has released its decision.

Loren Minnich, NIST - John McGuire with NIST is working on language for cylinders that were manufactured prior to the DOT decision. NIST supports tolerances of bottles manufactured after the DOT decision to meet ½ percent and ¼ percent. There is need to address bottles manufactured before the decision.

At the 2024 CWMA Annual meeting Mr. Loren Minnich, NIST – NIST has reached out to Department of Transportation to include cylinder manufacturers for additional information. Mr. Ivan Hankins, State of Iowa – Ask if there is any way to speed this process up? Mr. Loren Minnich, NIST – Added there is no way to speed this process up.

At the October 2023 CWMA Interim Meeting, Loren Minnich, NIST, has reached out to DOT and is waiting on their input to move forward.

Daniel Walker, OH, recommends assigning a Developing status until we hear back from DOT and NCWM.

At the 2023 CWMA Interim Meeting, no comments.

MOS-26.2 – 2.21.2. Metered Sales by Liquid Volume

Source: National Propane Gas Association

Submitter's Purpose and Justification:

Modify 2.21.2 (b) and (c) of IV. Uniform Regulations B. Uniform Regulation for the Method of Sale of Commodities, to require automatic temperature compensation to be performed electronically to ensure the most immediate reaction time of compensation equipment due to questionable reaction time data for mechanical temperature compensation devices in low flow applications.

Original Justification:

Existing data has been presented by way of a Linco-Electromatic, Inc. Technical Paper that calls into question the efficacy of mechanical temperature compensation equipment when connected to low flow pumping or dispensing systems. This paper calls out a reaction time ranging from three to six minutes before adequate compensation begins. With this lag time no single container filled by a LP Gas dispenser would receive compensated product if utilizing a mechanical temperature compensator. To ensure equity for propane sellers and buyers proper and immediately reactive temperature compensation equipment is needed.

The submitter acknowledged that State Weights and Measures officials have stated that during the conduction of meter proving with mechanical temperature compensation they have not witnessed the slow reaction times stated in the Linco- Electromatic, Inc. Technical Paper, although there is a flush performed prior to the actual meter flow test and not from direct start up.

The submitter requested Voting status in 2026.

NIST OWM Executive Summary

MOS-26.2 – 2.21.2. Metered Sales by Liquid Volume

NIST OWM Recommendation: Developing

- NIST OWM recommends this item as Developing. To ensure equity in the marketplace, ATC systems must meet the accuracy requirements specified in NIST Handbook 44. The Method of Sale only determines how a product is to be sold; in this case, when LPG is sold by volume, it must be a temperature-compensated volume. The sale of LPG by temperature compensation has been a requirement in NIST HB 130 since 1986; however, automatic means of temperature compensation was only required on meters with a flow rate of more than 20 gallons a minute. In January of 2026, all new meters must have a means to automatically temperature compensate, and in January of 2034, all meters must have a means to automatically temperature compensate. An unintended consequence of this requirement has been identified by the National Propane Gas Association (NPGA). It is suspected that systems with mechanical ATC, when filling 20 lb cylinders (flow rates of 20 gallons or less), may not perform accurately because the ATC mechanism doesn't operate properly when small volumes are measured. When jurisdictions test and inspect LPG meters, they use provers with a capacity of 25 gallons or more per NIST HB 44 requirements. The normal test of these meters is at their maximum flow rate. When tested at the maximum flow rate, these meters are quite capable of performing within the accuracy requirements specified by NIST HB 44. Because the test doesn't verify performance at much smaller drafts, such as those required to fill a 20 lb. cylinder (roughly 3 gallons), the performance in this range is unknown. Therefore, it may be more appropriate to amend NIST HB 44 to properly test the ability of meters with ATC to perform accurately at these lower flow rates. This should eliminate those devices that cannot perform accurately, in which case, this item would be unnecessary.

- Industry is in the process of conducting a study on the effects of electronic vs mechanical ATC to further recommend devices suitable for these deliveries. NIST OWM eagerly awaits this study to provide the best solution moving forward.

Table 2. Summary of Recommendations
MOS-26.2 – 2.21.2. Metered Sales by Liquid Volume

	Status Recommendation	Note*	Comments
Submitter	Voting		
OWM	Developing		
WWMA	Developing		
NEWMA	Voting		
SWMA	Developing		
CWMA	Withdrawal		
NCWM			

	Number of Support Letters	Number of Opposition Letters	Comments
Industry			
Manufacturers			
Retailers and Consumers			
Trade Association			

***Notes Key:**
1. Submitted modified language
2. Item not discussed
3. No meeting held
4. Not submitted on agenda
5. No recommendation or not considered

Item Under Consideration:

Amend NIST Handbook 130 Uniform Regulation for the Method of Sale of Commodities as follows:

2.21.2. Metered Sales by Liquid Volume. – All metered sales by liquid volume shall be accomplished using metering systems as follows:

(a) Sales using metering systems with a maximum rated capacity greater than 20 gal/min shall be accomplished using a metering system that automatically compensates for the effects of temperature.

(b) Sales using metering systems with a maximum rated capacity equal to or less than 20 gal/min that were placed into service after January 1, 202~~6~~**7**, shall be accomplished by use of a metering system that automatically **and electronically** compensates for the effects of temperature.

(c) Effective January 1, 2034, all metered sales ~~**(through all capacities of metering devices, regardless of installation and service date)**~~**through devices with a maximum rated capacity equal to or less than 20 gal/min that were placed into service prior to January 1, 2027,** shall be accomplished by use of a metering system that automatically **and electronically** compensates for **the effects of** temperature.

NIST OWM Detailed Technical Analysis:

NIST OWM recommends this item as Developing. To ensure equity in the marketplace, ATC systems must meet the accuracy requirements specified in NIST Handbook 44. The Method of Sale only determines how a product is to be sold; in this case, when LPG is sold by volume, it must be a temperature-compensated volume. The sale of LPG by temperature compensation has been a requirement in NIST HB 130 since 1986; however, automatic means of temperature compensation was only required on meters with a flow rate of more than 20 gallons a minute. In January of 2026, all new meters must have a means to automatically temperature compensate, and in January of 2034, all meters must have a means to automatically temperature compensate. An unintended consequence of this requirement has been identified by the National Propane Gas Association (NPGA). It is suspected that systems with mechanical ATC, when filling 20 lb cylinders (flow rates of 20 gallons or less), may not perform accurately because the ATC mechanism doesn't operate properly when small volumes are measured. When jurisdictions test and inspect LPG meters, they use provers with a capacity of 25 gallons or more per NIST HB 44 requirements. The normal test of these meters is at their maximum flow rate. When tested at the maximum flow rate, these meters are quite capable of performing within the accuracy requirements specified by NIST HB 44. Because the test doesn't verify performance at much smaller drafts, such as those required to fill a 20 lb. cylinder (roughly 3 gallons), the performance in this range is unknown. Therefore, it may be more appropriate to amend NIST HB 44 to properly test the ability of meters with ATC to perform accurately at these lower flow rates. This should eliminate those devices that cannot perform accurately, in which case, this item would be unnecessary.

The NPGA is currently formulating a study on the implications of Automatic Temperature Compensators on LPG filling process.

Summary of Discussions and Actions:

This item is new to the NCWM 2026 agenda.

Regional Association Reporting:

Western Weights and Measures Association

At the 2025 WWMA Annual Meeting (September 2025), Mr. Chris Wagner with the National Propane Gas Association (NPGA) referenced a study called the "Linco- Electromatic, Inc. Technical Paper" which demonstrates that electronic temperature compensation is immediate and meaningful in comparison with mechanical temperature compensation, which has a lag time that renders it ineffective for small drafts. He also stated the electronic compensators are more expensive so retailers, if left to their own devices, will install mechanical compensators to comply with the 2034 requirement. The NPGA polled the industry, and no contradictory data could be found. Mr. Chris Wagner recommended a voting status.

Mr. Scott Simmons (P 20:10 Services LLC) was opposed to the item and recommended the item be withdrawn. He expressed that mechanical automatic temperature compensators (ATCs) have been in use on dispensers with flow rates less than 20 gallons per minute for more than the 32 years that he has been testing and inspecting these devices. He also stated that both mechanical and electronic compensators are accurate and doesn't believe that existing technology should be limited without supporting statistical data. Mr. Simmons pointed out that the technical paper was based on large volumes of crude oil and does not apply to small deliveries of LPG. Additionally, he voiced concern that many propane companies have already invested in mechanical temperature compensators to comply with recently adopted requirements and would have to replace this equipment should this proposal be adopted.

Mr. Mahesh Albuquerque (Colorado Division of Oil and Public Safety) stated that his position was neutral on this item but shared the concern of the cost of replacement being substantial. He stated that Colorado has adopted regulations requiring ATCs by 2030 but does not specify whether these need to be mechanical or electronic. Mr. Albuquerque stated it wasn't fair to require a business to who just invested in a mechanical ATC to have to replace the ATC with an electronic ATC.

Mr. John Beall (County of Ventura, California) stated that while working in the field he checked propane deliveries with mechanical compensators and did not notice a trend of mechanical compensators being associated with inaccuracies. He sees the need to move towards ATC but not necessarily specifying which one must be required.

Mr. Mike Brooks (Arizona Department of Agriculture, Office of Weights and Measures) recommended forming a task group to address the contradiction in previous testimonies regarding the applicability of the study and the merits of mechanical vs electronic compensators.

Mr. Brent Ricks (Montana Weights and Measures Program) stated that Montana has a statute requiring compensation but does not specify whether these need to be electronic or mechanical. They have noticed more failures for mechanical than electronic for high flow rates but there are no electronic compensators at low flow rates to compare. Mr. Brent Ricks concurred with Mr. Mike Brooks about creating a task group.

Mr. Chris Wagner (NPGA) is not in opposition to further studies and recognizes the study was on a different product but claimed that it is the only study in existence today. He clarified that an item can always be downgraded but not upgraded; and that he is concerned with the potential that 7000 mechanical ATCs may be installed annually only to be forced to be replaced with electronic ATCs after the studies confirm what they already know - that electronic ATCs are more accurate. He recommends a voting status for this item realizing the item can always be downgraded in the future.

Mr. Loren Minnich asked a question as a consumer. If consumers buy about 4lbs for a typical cylinder, what is the draft size used during a test?

Mr. Matt Douglas (California Division of Measurement Standards) responded to Mr. Minnich indicating that the test draft is approximately 20 gallons. He also stated that he was not aware the study was not for the same product and that these devices have been National Type Evaluation Program (NTEP) approved already. He said that he recognizes the NPGA viewpoint about replacement however this item as it exists is not ready for a vote.

Mr. Scott Simmons (P 20:10 Services LLC) stated that a test draft size is 20 or 25 gallons and that an empty consumer LPG bottle would receive approximately 4.5 gallons. On that small of a draft there would be limited benefit for an ATC. He reiterated that the mechanical ATCs have been in use for many years and have been type approved, and ATCs are already required by our Handbooks. He also stated that there is only one company who developed an electronic ATC. There are currently no electronic ATCs installed on meters operating under 20GPM, so if this requirement goes into effect all of the meters that already have temperature compensation will need to be upgraded. We should not outlaw approved technology without significant data. Without the data we cannot make a decision.

Mr. Aaron Yanker (Colorado Department of Agriculture, Weights and Measures) stated that he was cautious about assigning this to a task group and suggested that industry should supply supporting data. Mr. Yanker then stated that if not withdrawn the item should be assigned a developing status.

The WWMA L&R Committee recommends a developing status for this item and suggests that the NPGA reach out to stakeholders to collect data to support the necessity of electronic temperature compensators

over mechanical. The WWMA L&R Committee further recommends to the NCWM L&R Committee that, once such data is available, the merit of this item and both the effective and non-retroactivity dates identified in subsections (b) and (c) should be reassessed.

Southern Weights and Measures Association

At the SWMA 2025 Annual Meeting (October 2025), Mr. Chris Wagner, with the NPGA commented that members are preparing for a $198 million infrastructure investment to comply with the retroactive requirements for temperature compensation. Industry and manufacturers admittedly have no data to substantiate or refute existing study that has been submitted into the record related to temperature compensation. NPGA has developed an initial study proposal in partnership with meter manufacturers, NIST, dispenser manufacturers, propane marketers, and the Propane Education and Research Council but seeks State Weights and Measures input prior to finalization of test methodology and protocol and in witnessing of proposed testing. NPGA has secured all funding necessary to complete the study. NPGA seeks Assigned or Developing status.

Ms. Alison Wilkinson with the state of Maryland agrees with NPGA that this item should be given a Developing status.

Based on the comments made from the floor the Committee recommends a Developing status.

Northeastern Weights and Measures Association

At the 2025 NEWMA Interim Meeting (October 2025), a regulator from New York commented that the way the proposal is currently written in section 2.21.2(c) leaves out devices that may be installed on January 1, 2027, and pointed out that the Handbook currently reads “Effective January 1, 2030” and needs to be struck to include the new date of 2034. New York recommended a Voting with the editorial changes. The committee referenced a supporting document that appear on the NEWMA website from a representative of P 20:10 Services, LLC. The supporting document requested a Withdrawn status for several reasons, but namely that a study the submitter relied on for data was confined to measuring crude oil, and not LPG.

After hearing comments from the floor, and considering the supporting document, the committee recommended a Voting status, and the body concurred.

During a subsequent committee review of this item, it was discovered that the comments made by New York regarding the 2030/2034 date were based on the language that appears in the 2025 Handbook. The committee now points out that during the 2025 Annual NCWM Meeting, a vote was held on MOS-25.1, which changed the date to 2034, and it will appear as such in the 2026 Handbook. After further review, the committee recommends the following editorial changes to section 2.21.2(c) based on the remaining comments from New York, to include “on or before” prior to January 1, 2027:

(c) Effective January 1, 2034, all metered sales **(through all capacities of metering devices, regardless of installation and service date)** **through devices with a maximum rated capacity equal to or less than 20 gal/min that were placed into service on or before prior to January 1, 2027,** shall be accomplished by use of a metering system that automatically **and electronically** compensates for **the effects of** temperature.

Central Weights and Measures Association

At the CWMA Interim Meeting (September 2025), A letter of opposition was received from Colorado and is posted on the CWMA website. Ivan Hankins, IA, concurs with the letter of opposition and recommended withdrawal of this item.

The CWMA L&R Committee recommends a Withdrawn Status for this item.

MOS-26.3 – 2.20 Gasoline and Gasoline Oxygenate Blends

Source: American Petroleum Institute

Submitter's Purpose and Justification:

Add requirements to the method of sale for liquid measuring devices that perform temperature compensation and/or density correction.

Original Justification:

Section IV., B. Method of Sale of Commodities, gasoline and gasoline oxygenate blends does not have a requirement for an invoice to include a statement that a calculated volume has been adjusted to a temperature of 15 °C (60 °F). The proposed language adds such a requirement.

Handbook 44 allows the use of automatic and nonautomatic temperature compensators to be used to calculate the net volume of the product at a reference temperature, but there is not a requirement in the Method of Sale to reflect that information on the invoice, though it is industry practice to do so. Additionally, due to the fact that the volume of gasoline and ethanol when blended is more than the volume of the two liquids measured separately, a proposal to modify Handbook 44 has been submitted to the NCWM to clarify that it is acceptable to use specific density-correction methods that allow for the accurate determination of volume growth that occurs when gasoline is blended with ethanol to make finished gasoline.

Automatic temperature compensators have been used for decades throughout the United States to calculate the net volume of the fuel being sold at terminals. Including a statement on the invoice to that effect identifies that the calculation has been done.

In 2019, the American Petroleum Institute published a Manual of Petroleum Measurement Standards (MPMS) Chapter 11.3.4, *Miscellaneous Hydrocarbon Properties - Denatured Ethanol and Gasoline Component Blend Densities and Volume Correction Factors,* that identifies multiple blending scenarios to calculate the excess volume that occurs when gasoline and ethanol are blended. Ch. 11.3.4 is a subchapter of the parent document Ch. 11, *Physical Properties Data*.

Ch. 11 is used throughout the petroleum industry to ensure the physical properties of the fuels are properly assessed to ensure that the fuel measured throughout the manufacturing and distribution system is done accurately and transparently using industry recognized standards. Indeed, measurements are taken at the refinery when fuel is moved into a pipeline, when the fuel is moved out of the pipeline into a terminal, and when the fuel is loaded from the terminal into a truck for delivery to a retail gasoline station. A recently released video by NIST states that every drop of fuel "passes through a meticulous system of measurements" from where the crude oil is extracted to the terminal to "prevent costly losses." [Source: Trust in Transactions: The Economic Power of Data – Moser April 9, 2025, https://www.nist.gov/pml/owm/weights-and-measures-economic-index.] The meticulous system of measurements often use API approved standards that are developed by the API Committee on Petroleum Measurement (COPM). Consequently, it is not a stretch to say that it is "firmly established trade custom and practice" to use the API MPMS standards to measure fuels throughout the industry worldwide. [see reference to HB 130, III. Uniform Laws, A. Weights and Measures Law, Section 16, Method of Sale (p. 29)]

The requirements for invoices in Handbook 130 – Section IV., Sec. B. Uniform Regulation for the Method of Sale of Commodities, Paragraph 2.20. Gasoline and Gasoline Oxygenate Blends – are minimal in scope

providing only a reference to the U.S. Environmental Protection Agency (EPA) rules. These rules, summarized below require only the volume of the product being transferred to be identified.

> **EPA Rules at 40 C.F.R. § 1090.1110, PTD requirements for gasoline, gasoline additives, and gasoline regulated blendstocks**, paragraph "(a) ***General requirements.*** On each occasion when any person transfers custody or title of any gasoline, gasoline additive, or gasoline regulated blendstock, other than when fuel is sold or dispensed to the ultimate end user at a retail outlet or WPC facility, the transferor must provide the transferee PTDs that include the following information: (1) All applicable information required under § 1090.1100 and this section." [emphasis added]
>
> **Section "1090.1100 General Requirements"** states (a)(1)(iii) a PTD must include a set of information including (iii) **"The volume of the product being transferred."** [emphasis added]

This proposed change to HB 130 Method of Sale makes it clear that if the volume of a product is calculated and changed to reflect a change in volume, that the invoice reflects that change and cites the reference temperature.

Today multiple API standards (identified below) ensure accurate and transparent measurement. Further, sales agreements may state that where temperature compensation is used, those calculations incorporate the methods and procedures specified in API MPMS Chapter 11.[1]

- Ch. 8.1 Manual Sampling of Petroleum Products (ASTM D4057)
- Ch. 5.x Metering (5.1 General Considerations for Measurement by Meters, with specific chapters that address for displacement meters, turbine meters, Coriolis meters, ultrasonic flow meters, Fidelity and Security of Flow Measurement Pulsed-Data Transmissions Systems)
- Ch. 6.x – Metering Systems (6.1 Metering Assemblies- General Considerations, with specific chapters for - Truck and Rail Loading and Unloading Measurement Systems; - Pipeline and Marine Loading/Unloading Measurement Systems; and Lease Automatic Custody Transfer Systems)
- Ch. 4.x Proving Systems (Displacement Provers, Master-Meter Provers, Field Standard Test Measures, Methods of Calibration for Displacement and Volumetric Tank Provers, Part 1—Introduction to the Determination of the Volume of Displacement and Tank Provers)
- Ch. 7.4 Dynamic Temperature Measurement
- Ch. 11 Physical Properties Data (ASTM D1250, Adjunct)
    - Chapter 11.1 - Temperature and Pressure Volume Correction Factors for Generalized Crude Oils, Refined Products, and Lubricating Oils
    - Ch. 11.3.3 Miscellaneous Hydrocarbon Product Properties—Denatured Ethanol Density and Volume Correction Factors
    - Ch. 11.3.4 Miscellaneous Hydrocarbon Properties - Denatured Ethanol and Gasoline Component Blend Densities and Volume Correction Factors

[1] https://www.api.org/-/media/files/publications/2024-catalog/2024-publication-catalog.pdf.

    - Ch. 11.4.1 Density of Water and Water Volumetric Correction Factors for Water Calibration of Volumetric Provers

- Ch. 12.2 Calculation of Petroleum Quantities using Dynamic Measurement Methods and Volumetric Correction Factors

- Ch. 21.2 Electronic Liquid Measurement Using Positive Displacement and Turbine Meters

Why should we use and accept API standards? Handbook 130, Uniform Weights and Measures Law, Section 16, recognizes "firmly established trade custom and practice" that dictate how liquid fuels are sold. Specifically, it states,

> **Section 16. Method of Sale**
>
> Except as otherwise provided by the Director or by firmly established trade custom and practice,
>
> (a) commodities in liquid form shall be sold by liquid measure or by weight; and
>
> (b) commodities not in liquid form shall be sold by weight, by measure, or by count.
>
> The method of sale shall provide accurate and adequate quantity information that permits the buyer to make price and quantity comparisons.
> (Amended 1989)

In 2024, the U.S. customers consumed 137 billion gallons of gasoline (most of which was 10% ethanol) and 63 billion gallons of diesel fuel. Another 24 billion gallons of jet fuel were consumed in the U.S. At each stage of the process from producing the crude oil to selling the finished fuel to a retail gasoline station the product is measured. So, while there is over 224 billion gallons of finished product consumed in the U.S., those molecules have likely been measured many times over. These measurements are so important that the API Committee on Petroleum Measurement (COPM) meets twice a year, with over 700 people in attendance, at each meeting to review the standards that are used in the U.S. and around the world. By definition, the petroleum industry uses the API standards which are firmly established trade custom and practice.

Some have raised concerns that metering systems should not modify the volume of the product after it has gone through the custody meter. This concern appears to be premised on the belief that the gross volume **and** the net standard temperature compensated volume are measured. In practice, the only measured volume is the gross volume and that is measured by counting pulses from the meter in accordance with an API standard. The gross volume is then used by the custody transfer system or the automatic terminal management system to calculate the net volume using another set of API standards including Chapters 5.x, 6x, 7.4, 11.1, 11.3.3, 11.3.4, 12.2, and 21.2. Please see above for the names of these standards.

Some have indicated that HB 130, IV. Uniform Regulations, A. Uniform Packaging and Labeling Regulation, Paragraphs 7.4.(b) and 7.5.(b) may already include a requirement.

> **7.4. SI Units: Mass, Measure.**
>
> (b) in units of liquid measure shall be in terms of the liter or milliliter, and shall express the volume at 20 °C, except in the case of petroleum products or distilled spirits, for which the declaration shall express the volume at 15.6 °C, and except also in the case of a commodity that is normally sold and consumed while frozen, for which the declaration shall express the volume at the frozen temperature, and except also in the case of malt beverages or a commodity that is normally sold in the refrigerated state, for which the declaration shall express the volume at 4 °C;
> (Amended 1985)

7.5 U.S. Customary Units: Weight, Measure.

(b) in units of liquid measure shall be in terms of the United States gallon of 231 cubic inches or liquid quart, liquid pint, or fluid ounce subdivisions of the gallon and shall express the volume at 68 °F, except in the case of petroleum products or distilled spirits, for which the declaration shall express the volume at 60 °F, and except also in the case of a commodity that is normally sold and consumed while frozen, for which the declaration shall express the volume at the frozen temperature, and except also in the case of a commodity that is normally sold in the refrigerated state, for which the declaration shall express the volume at 40 °F, and except also in the case of malt beverages, for which the declaration shall express the volume at 39.1 °F; (Amended 1985)

The submitter requested that this be a Voting Item in 2026.

NIST OWM Executive Summary

MOS-26.3 – Section 2.20 Gasoline and Gasoline Oxygenate Blends

NIST OWM Recommendation: Developing

- NIST OWM recognizes that when blending ethanol and petroleum products, due to the physical characteristics of these products, a chemical change occurs, which results in a greater volume of the blended product than the sum of the volume of the separate products when corrected to the reference temperature of 15 °C (60 °F). This phenomenon has been recognized for some time, as evidenced by a presentation given during the 2007 CWMA Annual Meeting by Ron Hayes (MO Retired). The question before the weights and measures community is how best to quantify this phenomenon. There is a companion item on the S&T Interim Agenda, LMD 26.1, that would amend NIST Handbook 44 Section 3, 3.30 Liquid Measuring Devices. OWM would suggest these items proceed together, as they are interrelated.

- NIST OWM has provided some language change suggestions as the NCWM committees review these items. The language change can be found in our Detailed analysis below.

Table 2. Summary of Recommendations
MOS-26.3 – Section 2.20 Gasoline and Gasoline Oxygenate Blends

	Status Recommendation	Note*	Comments
Submitter	Voting		
OWM	Developing		
WWMA	Voting		
NEWMA	Developing		
SWMA	Voting		
CWMA	Informational		
NCWM			

	Number of Support Letters	Number of Opposition Letters	Comments
Industry			
Manufacturers			
Retailers and Consumers			
Trade Association			

***Notes Key:**

1. Submitted modified language
2. Item not discussed
3. No meeting held
4. Not submitted on agenda
5. No recommendation or not considered

Item Under Consideration:

Amend NIST Handbook 130 Uniform Regulation for the Method of Sale of Commodities as follows:

2.20. Gasoline and Gasoline Oxygenate Blends

2.20.1. Method of Retail Sale. – Type of Oxygenate must be Disclosed. – All automotive gasoline or automotive gasoline-oxygenate blends kept, offered, or exposed for sale, or sold at retail containing at least 1.5 mass percent oxygen shall be identified as "with" or "containing" (or similar wording) the predominant oxygenate in the engine fuel. For example, the label may read "contains ethanol" or "with MTBE." The oxygenate contributing the largest mass percent oxygen to the blend shall be considered the predominant oxygenate. Where mixtures of only ethers are present, the retailer may post the predominant oxygenate followed by the phrase "or other ethers" or alternatively post the phrase "contains MTBE or other ethers." In addition, gasoline-methanol blend fuels containing more than 0.3 % by volume methanol shall be identified as "with" or "containing" methanol. This information shall be posted on the upper 50 % of the dispenser front panel in a position clear and conspicuous from the driver's position in a type at least 12.7 mm (1/2 in) in height, 1.5 mm (1/16 in) stroke (width of type). (Amended 1996)

2.20.2 Product Transfer Document Requirements. – The retailer shall be provided information that complies with PTD requirements for gasoline, gasoline additives, and gasoline regulated blendstocks **40 C.F.R. § 1090.1110**, at the time of delivery of the fuel, on product transfer documents such as an invoice, bill of lading, shipping paper, or other documentation. Additional declarations may be required for specific fuels **and/or measuring devices:**

(a) For fuels containing multiple oxygenates or oxygenates other than ethanol a declaration of the predominant oxygenate or combination of oxygenates present in concentrations sufficient to yield an oxygenate content of at least 1.0 % by volume in the fuel. Where mixtures of only ethers are present, the fuel supplier may identify either the predominant oxygenate in the fuel (i.e., the oxygenate contributing the largest mass percent oxygen) or alternatively, use the phrase "contains MTBE or other ethers."

(b) For fuels containing more than 0.3 % by volume methanol a declaration shall be identified as "with" or "containing" methanol.

(c) A written invoice based on a reading of a device that is equipped with an automatic or nonautomatic temperature compensator shall show the net volume delivered and that the volume delivered has been adjusted to the volume at 15 °C (60 °F).

(d) A written invoice based on a reading of a device that is equipped with an automatic or nonautomatic density-correction system shall show the excess volume for the finished product and the net standard volume inclusive of the excess volume for the finished product adjusted to the volume at 15 °C (60 °F).

(Added 1984) (Amended 1985, 1986, 1991, 1996, 2014, 2022, ~~and~~ 2023**, and 202X**)

NIST OWM Detailed Technical Analysis:

NIST OWM recognizes that when blending ethanol and petroleum products, due to the physical characteristics of these products, a chemical change occurs, which results in a greater volume of the blended product than the sum of the volume of the separate products when corrected to the reference temperature of 15° C (60° F). This phenomenon has been recognized for some time, as evidenced by a presentation given during the 2007 CWMA Annual Meeting by Ron Hayes (MO Retired). The question before the weights and measures community is how best to quantify this phenomenon. There is a companion item on the S&T Interim Agenda, that would amend LMD 26.1 NIST Handbook 44 Section 3, 3.30 Liquid Measuring Devices. OWM would suggest these items proceed together, as they are interrelated.

The justification included in the proposal provides a lot of useful information, but there are a few questions that remain:

1. How many facilities have Ratio-Blending Systems that only measure the separate components (petroleum and ethanol)? How many facilities have Side-Stream systems that measure the blend of gasoline and ethanol?

2. How many gallons of product are subject to the correction, if adopted?

3. What is the financial impact on these facilities of utilizing a system that corrects for density/expanded volume (i.e., selling on a net instead of gross basis)? And what is the cost of reconfiguring these facilities to convert them to Side-Stream terminals?

4. When determining the net volume, do Ratio-Blending Systems that incorporate means to correct for density have the same accuracy as Side-Stream systems that correct for temperature only?

5. Before OWM can determine the merit of these proposals, these questions should be answered. This analysis will focus on the syntax, semantics, structure, and proper formatting of the proposed language.

The following is language is suggested:

2.20. Gasoline and Gasoline Oxygenate Blends

2.20.1. Method of Retail Sale. ~~— Type of Oxygenate must be Disclosed. –~~

(a) All automotive gasoline or automotive gasoline oxygenate blends shall be sold, offered or exposed for sale in terms of liquid volume by the liter or the gallon. If sold, offered, or exposed for sale on a temperature compensated basis it shall be by the liter (defined as 1 liter at 15 °C) or the gallon (defined as 231 in^3 at 60 °F).

(Added 20XX)

(b) An automotive gasoline oxygenate blend that is the result of combining separately measured gasoline or gasoline regulated blendstocks and ethanol, may be sold, offered, or exposed for sale

on a density corrected basis by the liter (defined as 1 liter at 15 °C) or the gallon (defined as 231 in^3 at 60 °F)

(Added 20XX)

(Amended 20XX)

2.20.2. Type of Oxygenate must be Disclosed. – All automotive gasoline or automotive gasoline-oxygenate blends kept, offered, or exposed for sale, or sold at retail containing at least 1.5 mass percent oxygen shall be identified as "with" or "containing" (or similar wording) the predominant oxygenate in the engine fuel. For example, the label may read "contains ethanol" or "with MTBE." The oxygenate contributing the largest mass percent oxygen to the blend shall be considered the predominant oxygenate. Where mixtures of only ethers are present, the retailer may post the predominant oxygenate followed by the phrase "or other ethers" or alternatively post the phrase "contains MTBE or other ethers." In addition, gasoline-methanol blend fuels containing more than 0.3 % by volume methanol shall be identified as "with" or "containing" methanol. This information shall be posted on the upper 50 % of the dispenser front panel in a position clear and conspicuous from the driver's position in a type at least 12.7 mm (1/2 in) in height, 1.5 mm (1/16 in) stroke (width of type).

(Amended 1996 **and 20XX**)

2.20.~~2~~3 Product Transfer Document (PTD) Requirements. – The retailer shall be provided information that complies with PTD requirements for gasoline, gasoline additives, and gasoline regulated blendstocks **40 C.F.R. § 1090.1110**, at the time of delivery of the fuel, on product transfer documents such as an invoice, bill of lading, shipping paper, or other documentation. Additional declarations may be required for specific fuels **and/or measuring devices:**

(a) For fuels containing multiple oxygenates or oxygenates other than ethanol a declaration of the predominant oxygenate or combination of oxygenates present in concentrations sufficient to yield an oxygenate content of at least 1.0 % by volume in the fuel. Where mixtures of only ethers are present, the fuel supplier may identify either the predominant oxygenate in the fuel (i.e., the oxygenate contributing the largest mass percent oxygen) or alternatively, use the phrase "contains MTBE or other ethers."

(b) For fuels containing more than 0.3 % by volume methanol a declaration shall be identified as "with" or "containing" methanol.

(Added 1984) (Amended 1985, 1986, 1991, 1996, 2014, 2022, and 2023)

(c) For automotive gasoline or automotive gasoline-oxygenate blends an invoice based on a reading of a system that is equipped with an automatic or nonautomatic temperature compensator shall identify the delivered net volume by the liter (defined as 1 liter at 15 °C) or the gallon (defined as 231 in^3 at 60 °F).

(Added 20XX)

(d) For automotive gasoline-oxygenate blends an invoice based on the reading of a system that is equipped with an automatic or nonautomatic temperature compensator and to correct for density shall, in addition to the values required by (c) above, identify the net excess volume, that is the change in volume attributed to the change in density.

(Added 20XX)

2.20.4. EPA Labeling Requirements. – Retailers and wholesale purchaser-consumers of gasoline shall comply with the EPA pump labeling requirements for gasoline containing greater than 10 volume percent (v%) up to 15 volume percent (v%) ethanol (E15) under E15 labeling provisions, **40 C.F.R. § 1090.1510**. (For additional information, refer to Section 2.30.2. FTC Labeling Requirements.)

(Added 2018) (Amended 2022 **and 202X**)

Summary of Discussions and Actions:

This item.is new for the 2026 NCWM cycle.

Regional Association Reporting:

Western Weights and Measures Association

At the 2025 WWMA Meeting (September 2025), Mr. Matt Sheehan (Chevron) gave a presentation, which is available on the WWMA website, and recommended a voting status.

Russ Lewis (Marathon Petroleum) supported a voting status.

Mr. Kevin Schnepp (California Division of Measurement Standards) made the comment that there have been efforts to harmonize the Uniform Fuels and Automotive Lubricants Regulation with the Uniform Regulation for the Method of Sale of Commodities and that FLR 3.2.5 would need to be harmonized with this MOS language.

The submitter acknowledged that this item is a companion to LMD-26.1, on the Specifications and Tolerances Committee agenda, and provided a roster of the industry-led Density Correction Work Group that contributed to the development of this item. This roster of participants is posted on the WWMA website.

The WWMA L&R Committee recommends a voting status.

Southern Weights and Measures Association

At the 2025 SWMA Annual Meeting (October 2025), Mr. Prentiss Searles with API presented the item.

Mr. Randy Jennings as the Vice Chair with FALS commented that the conforming amendment to the proposal to include F.3.2.5. not be added to this proposal. That Handbook 130 engine fuel regulation focuses on quality.

Mr. Matt Shein with Chevron supports this item and recommends Voting status.

Mr. Russ Lewis with Marathon Petroleum echoes Chevrons' statement and recommends a Voting status.

Mr. Jared Scott with Exxon Mobile echoes Chevrons' statements and recommends a Voting status.

Ms. Alison Wilkinson, with the state of Maryland, believes this is not ready to be moved forward and is not fully developed and suggests additional oversite review from regulators.

The Committee has accepted the request that was made from the floor to not make a recommendation to NCWM to include the conforming amendment F.3.2.5. to this item. Based on other comments made from the floor, the Committee finds this item has merit, is fully developed, and recommends a Voting status.

Northeastern Weights and Measures Association

At the 2025 NEWMA Interim Meeting (October 2025), a presentation was given by a representative of American Petroleum Institute (API), which explained the growth in a final product when ethanol and gasoline are blended together. He commented that for those terminals that do not have a side-stream meter, rather relying on ratio blending meters, a density correction system would allow an accurate calculation of the growth of the product, and this item would require the results of that calculation to be on product transfer documents. The representative from API recommended a voting status. A representative from Marathon Petroleum commented that their older terminals were designed to deliver "neat" hydrocarbons and when ethanol blending was required, they had to retrofit the terminals. She pointed out that a flow meter needs a specific length of unobstructed pipe to get the symmetrical velocity profile for an accurate measurement.

If a side stream configuration is not possible or practical, then a density correction system would need to be used. She indicated that these systems allow accurate delivery to the customers. Marathon Petroleum supports the proposal and requests a voting status. A representative from Growth Energy commented that the company implements ethanol into the fuel stream in the US in various ways and is curious how this would apply to retailers. There was discussion between API and Growth Energy on this topic, and the committee indicated that this proposal was specific to wholesale meters and if there were further questions about possible retail implementation, the two representatives should contact each other. A regulator from New Jersey commented that this item is interdependent on the passage of LMD-26.1, and if the practice of density correction systems is allowed, then the corrections should absolutely be recorded on the invoice. New Jersey recommended a Withdrawn status, but also recommended that if both LMD-26.1 and MOS-26.1 move forward, then NCWM should find a way to have both items heard in tandem through the process. A representative from TSL Consulting commented that there is language in the Uniform Engine Fuels and Automotive Lubricants Regulation that is almost identical to the original language in the Uniform Method of Sale, and asked this committee to make a recommendation to harmonize the languages, especially for States that adopt both. He also commented that this item is not interdependent on LMD-26.1, rather it is complimentary, as the handbook does not currently prohibit density correction. The regulator from New Jersey agreed with this comment. The representative from TSL Consulting recommended Voting status.

After hearing comments from the floor and reviewing the presentations provided by API, the committee recommended a Developing status, and the body concurred. The committee also recommends that the submitter work with the NCWM L&R Committee to identify the language in the Uniform Fuels and Automotive Lubricants Regulation Section 3.2.5 Product Transfer Document (PTD) Requirements that need to be modified so they align with this proposal

Central Weights and Measures Association

At the CWMA 2025 Interim Meeting (September 2025), Individuals were concerned on the number of regulators not being involved in API's work. Several regulators and individuals recommended withdrawal or an assigned status and one individual was in support of voting status.

The CWMA L&R Committee recommends an informational status for this item.

UPR – UNIFORM UNIT PRICING REGULATION

UPR-26.1 – Uniform Unit Pricing Regulation: Multiple Sections

Source: NIST Office of Weights and Measures

Submitter's Purpose and Justification:

The purpose of this proposal reflects necessary changes to align unit pricing practices with modern consumer needs, evolving retail environments, and technological advancements. These revisions aim to enhance the clarity, consistency, and accessibility of unit pricing across various retail formats, including digital marketplaces and brick-and-mortar retail establishments. By standardizing best practices, the updates improve consumers' ability to compare prices accurately, regardless of product type, packaging, or sales channel.

States should adopt the revised regulation to promote uniformity, protect consumer rights, and support informed purchasing decisions. Uniform adoption reduces confusion and compliance burdens on interstate retailers while strengthening enforcement of fair pricing practices. It ensures that all consumers, regardless of their location or abilities, benefit from accurate, legible, and meaningful unit price information. Adopting this regulation also signals a commitment to economic equity and consumer protection, helping states foster competitive markets that prioritize trust, fairness, and efficiency in both brick-and-mortar and digital retail environments.

Original Justification:

Unit pricing has existed in the U.S.A. since the early 1970s, growing out of the "truth-in-labeling" era. Consumers demanded more information ("right to know") on labels to make informed purchase decisions. More recent innovations in retail sales, such as electronic shelf labels that utilize interactive devices such as QR codes, online advertising and sales, and related sales for pick up or delivery, and prices posted on applications that can be individualized to specific consumers, require new ways to inform consumers. Relatedly, evolutions in the retail marketplace have blurred the lines between traditional categories, with grocery, hardware, and even clothing stores offering products once exclusively sold by other categories of retailers, and have expanded the range of retailers concerned with disclosing unit prices. Consumers need unit pricing to make informed decisions about price and value comparisons for the products they are purchasing. Retailers also benefit when unit price labeling is implemented through improved pricing accuracy and greater inventory control, ultimately reducing the retailer's labor costs.

The submitter acknowledges that unit pricing has been in place for decades; the industry may not be ready to implement the additional requirements for e-commerce sites and technological advancements.

NIST OWM Executive Summary

UPR-26.1 – Uniform Unit Pricing Regulation: Multiple Sections

NIST OWM Recommendation: Voting

NIST OWM recommends a voting status for this item as States should adopt UPR 26.1 as written in NCWM Publication 15.

The Uniform Unit Pricing Regulations:

- Enhances consumer transparency and combats "shrinkflation" by standardizing how value is displayed.
- Promotes national regulatory uniformity, reducing compliance burdens for retailers operating in multiple states.
- Modernizes state law to address e-commerce, electronic shelf labels, and current retail technologies using nationally vetted best practices.
- Strengthens enforcement and public confidence by aligning with the latest NIST/NCWM model language and guidance.

Table 2. Summary of Recommendations

UPR-26.1 – Uniform Unit Pricing Regulation: Multiple Sections

	Status Recommendation	Note*	Comments
Submitter	Voting		
OWM	Voting		
WWMA			* Item was not on Regional Agenda for review.
NEWMA			* Item was not on Regional Agenda for review.
SWMA	Informational		
CWMA	Developing		
NCWM			

	Number of Support Letters	Number of Opposition Letters	Comments
Industry			
Manufacturers			
Retailers and Consumers			
Trade Association			

***Notes Key:**

1. Submitted modified language
2. Item not discussed
3. No meeting held
4. Not submitted on agenda
5. No recommendation or not considered

Item under Consideration:

Amend the NIST Handbook 130 Uniform Unit Pricing Regulation as follows:

Uniform Unit Pricing Regulation

as adopted by
The National ~~Conference~~**Council** on Weights and Measures*

1. Background

The Uniform Unit Pricing Regulation (**U**UPR) (renamed in 1983) provides a national approach to the subject for those jurisdictions choosing to adopt such a regulation. The traditional approach of the ~~Conference~~**Council** in drafting Uniform Regulations has been to design specific implementing Regulations for the enforcement of the broader requirements of the Uniform Weights and Measures Law. Given the authority of Sections 12**11**.(c) and (d), and the mandate of Section 16**15**. of this Law, as well as the trend in unit pricing, both voluntary and mandatory, the **U**UPR is considered appropriate. Unit pricing has been a concern of the weights and measures official and has been required for random weight packages for a long time.

In 1993, the NCWM was contacted by several weights and measures jurisdictions and retail trade associations who requested that the **U**UPR be updated to add new commodity groups and pricing requirements. The comments indicated that many commodity groups for non-food products were not included in the table and that some of the required units may not be appropriate for many of the new products being sold in stores. Another concern was that the UPR specified pricing only on the basis of price per pound on most products sold by weight. This has resulted in some jurisdictions not enforcing the requirements on stores that voluntarily **use** unit price on the basis of price per ounce instead of price per pound. The NCWM agreed that the **U**UPR should be revised to encourage wider adoption and use of the uniform regulation and that provisions for unit pricing in metric units should be included.

At the 1997 Annual Meeting, the NCWM adopted revisions to the regulation to permit retail stores that voluntarily provide unit pricing to present prices using various units of measure.

The NCWM eliminated the table of product groupings because it is difficult to keep it current and inclusive, so some newer products were not included under the uniform requirements. The table was replaced with requirements that specify that the unit price is to be based on price per ounce or pound, or price per 100 grams or kilogram, if the packaged commodity is labeled by weight. For example, the proposed revisions would require the unit price for soft drinks sold in various package sizes (e.g., 12 fl oz cans through 2 L bottles) to be uniformly and consistently displayed in terms of either price per fluid ounce, price per quart, or price per liter. The NCWM also increased the price of commodities exempted from unit pricing from 10 cents to 50 cents. The NCWM believed these revisions would ensure that unit pricing information facilitates value comparison between different package sizes and/or brands offered for sale in a store.

The NCWM also considered several comments on this item from members of the U.S. Metric Association (USMA). Most of these comments suggested that the **U**UPR be amended to require unit pricing in metric units and permit U.S. customary unit pricing to be provided voluntarily. When it developed the proposed revisions, the NCWM included guidelines for both U.S. customary and metric unit pricing and believes this is the correct approach to implementing metric revisions in the regulation. The NCWM would like to make it clear that the **U**UPR applies only when stores voluntarily provide unit pricing information. Its purpose is to provide a standard that retailers must follow to ensure that consumers will have pricing information that helps them make value comparisons. The decision to provide unit price information in metric or U.S. customary units rests with retailers who will respond to consumer preference. The NCWM believes that consumer preference will be the deciding factor as to when and how quickly metric unit pricing is used in the marketplace. Therefore, the NCWM does not support amendments to include mandatory provisions in the **U**UPR**,** as these provisions would take the decision to go to metric unit pricing out of the hands of consumers and retailers. Finally, the NCWM does not want to include any requirement that may discourage retailers from voluntarily providing unit price information.

(Amended 1997 **& 202X**)

In December 2014, NIST published a unit pricing best practice guide, NIST **OWM published the original Special Publication** SP 1181, "Unit Pricing Guide, A Best Practice Approach to Unit Pricing," **in 2015,** which can be found at **https://doi.org/10.6028/NIST.SP.1181**. The guide was developed to provide retailers with information about the best practice requirements for the unit pricing of pre-packaged commodities, which will improve the accuracy, usability, and uniformity of unit pricing information offered in retail stores. **In 2024, the Unit Price workgroup was reconvened to review and update the guide, including making recommendations for unit pricing best practices in the online environment and addressing electronic shelf labels in conventional retail stores.** The guide is not intended to conflict with the **U**UPR. Mandatory regulations should be consulted to ensure those requirements are met before the recommended best practice requirements in this guide are implemented.

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*The National ~~Conference~~**Council** on Weights and Measures (NCWM) is supported by the National Institute of Standards and Technology (NIST) in partial implementation of its statutory responsibility for "cooperation with the states in securing uniformity in weights and measures laws and methods of inspection."

2. Status of Promulgation

The table beginning on page 6 Figure 1, illustrates the status of adoption of the Uniform Unit Pricing Regulation.

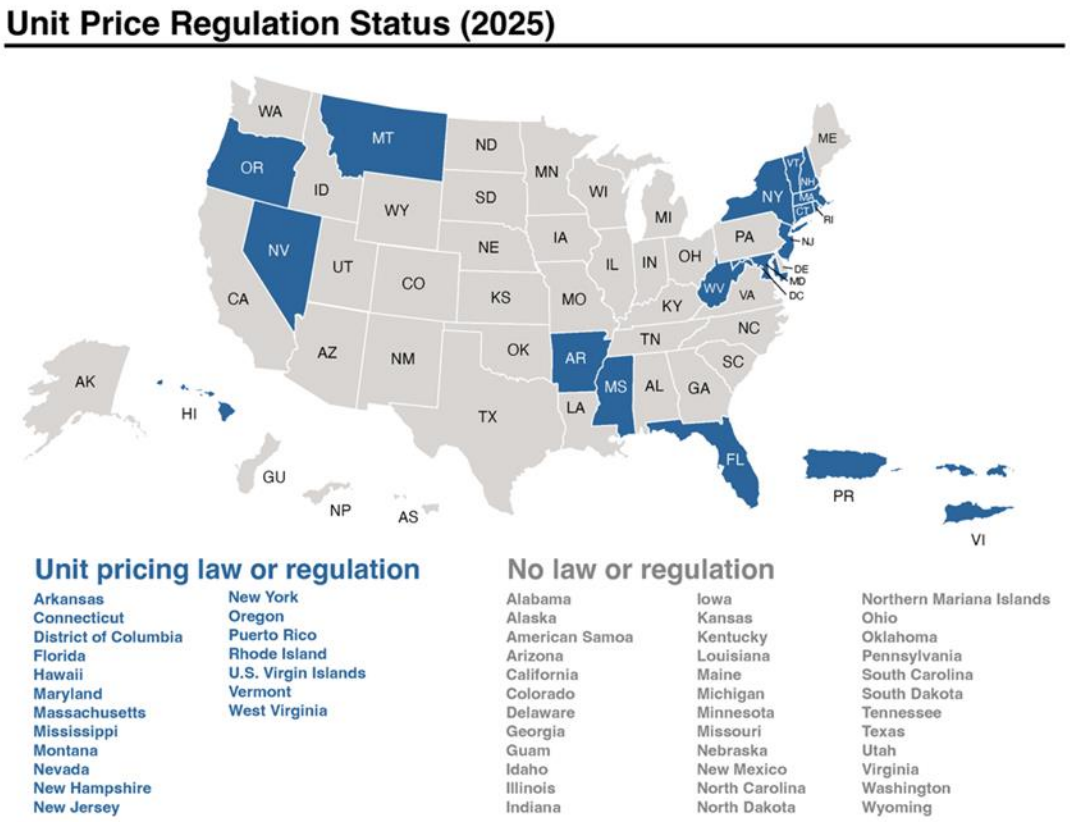

Table of Contents

C. Uniform Unit Pricing Regulation

Section 1. Application

The purpose of this regulation is to establish uniform requirements for the presentation and display of unit pricing information for consumer commodities offered for retail sale. Unit pricing enables consumers to make value-based price comparisons by providing cost-per-unit-of-measure information. This regulation supports fair marketing practices, promotes pricing transparency, and enhances consumer choice across all retail channels, including in-store and e-commerce environments.

Except for random and uniform weight packages that clearly state the unit price in accordance with existing regulations, any retail establishment providing unit price information for packaged commodities shall provide the unit price information in the manner prescribed herein.
(Amended 202X)

Section 2. Definitions

***2.1 Unit Price* – A Unit price is the cost per unit of measure of products, such as the cost per milliliter or per ounce.**

***2.2 Retail Price* – Retail price is the total selling price of a consumer commodity**.

***2.3 Electronic Shelf Label (ESL)*- An ESL is an electronic display that retailers can use to present a product's name, price, unit price, and other information on a small wired or wireless panel, usually on the edge of a store shelf.**

***2.4 E-Commerce* - E-commerce is the process of using digital platforms to offer for sale, transact sales, and deliver consumer product(s) or non-consumer product(s) when the purchaser is not physically present at the point of purchase.**
(Amended 202X)

Section ~~2~~3. Terms for Unit Pricing

~~The declaration of the unit price of a particular commodity in all package sizes offered for sale in a retail establishment shall be uniformly and consistently expressed in terms of:~~

The declaration of the unit price of a particular product category in all package sizes offered for sale in a retail establishment or e-commerce site shall be uniformly and consistently expressed in the terms below. The same unit of measure should be used whether sold in a standard pre-pack, random weight pre-pack, loose from bulk, and regardless of multiple locations within the store or e-commerce sites

(a) Price per kilogram or 100 g, or price per pound or ounce, if the net quantity of contents of the commodity is in terms of weight.

(b) Price per liter**,** ~~or~~ 100 mL, **cubic meter, cubic decimeter, or cubic centimeter,** or price per dry quart**,** ~~or~~ dry pint**, cubic yard, cubic foot, or cubic inch** if the net quantity of contents of the commodity is in terms of dry measure or volume.

(c) Price per liter or 100 mL, or price per gallon, quart, pint, or fluid ounce, if the net quantity of contents of the commodity is in terms of liquid volume.

(d) Price per individual unit or multiple units if the net quantity of contents of the commodity is in terms of count.

(e) Price per square meter, square decimeter, or square centimeter, or price per **100 square feet,** square yard, square foot, or square inch, if the net quantity of contents of the commodity is in terms of area.

(f) Price per meter, decimeter, centimeter or price per yard, foot, or 100 feet, or inch, if net quantity of contents of the commodity is in terms of length.

(g) Products such as wine and spirits must be unit priced in metric only in accordance with federal law.

(h) Unit pricing based on non-standard or ambiguous measures (e.g., "uses", "servings") is prohibited.

(Amended 2023 **& 202X**)

Section ~~3~~4. Exemptions

(~~a~~) ~~Small Packages. – Commodities shall be exempt from these provisions when packaged in quantities of less than 28 g (1 oz) or 29 mL (1 fl oz) or when the total retail price is 50 cents or less.~~

(~~b~~) ~~Single Items. – Commodities shall be exempt from these provisions when only one brand in only one size is offered for sale in a particular retail establishment.~~

(a) Infant Formula. – For "infant formula," unit price information may be based on the reconstituted volume. "Infant formula" means a food that is represented for special dietary use solely as a food for infants by reason of its simulation of human milk or suitability as a complete or partial substitute for human milk.

(b) Variety and Combination Packages. – Variety and Combination Packages as defined in Section 2.9 and Section 2.10 in the Uniform Packaging and Labeling Regulation [see ***Section ~~3~~4. NOTE***] shall be exempt from these provisions.

Section ~~3~~4. NOTE: See "Uniform Packaging and Labeling Regulation."
(Amended 202X)

Section 4~~5~~. Pricing

(a) The unit price shall be to the nearest cent when a dollar or more.

(b) If the unit price is under a dollar, it shall be listed:

(1) to the tenth of a cent; or

(2) to the whole cent.

The retail establishment shall have the option of using (b)(1) or (b)(2), but shall not implement both methods.

The retail establishment shall accurately and consistently use the same method of rounding up or down to compute the price to the whole cent.

Section ~~5~~6. Presentation of Price

(a) In any retail establishment **or e-commerce site** ~~in which~~ the unit price ~~information is provided in accordance with the provisions of this regulation, that information may~~ **shall** be displayed by means of a ~~sign~~ **display** that offers the unit price for one or more brands and/or sizes of a given commodity, by means of a sticker, stamp, sign, label, **ESL,** or tag affixed to the shelf **or adjacent to the product on an e-commerce site** upon which the commodity is displayed, or by means of a sticker, stamp, sign, label, or **ESL,** tag affixed to the consumer commodity**, and directly adjacent to the retail price**.

(b) Price per liter**,** ~~or~~ 100 mL, **cubic meter, cubic decimeter, or cubic centimeter,** or price per dry quart**,** ~~or~~ dry pint**, cubic yard, cubic foot, or cubic inch** if the net quantity of contents of the commodity is in terms of dry measure or volume.

(c) Price per liter or 100 mL, or price per gallon, quart, pint, or fluid ounce, if the net quantity of contents of the commodity is in terms of liquid volume.

(d) Price per individual unit or multiple units if the net quantity of contents of the commodity is in terms of count.

(e) Price per square meter, square decimeter, or square centimeter, or price per **100 square feet,** square yard, square foot, or square inch, if the net quantity of contents of the commodity is in terms of area.

(f) Price per meter, decimeter, centimeter or price per yard, foot, or 100 feet, or inch, if net quantity of contents of the commodity is in terms of length.

(g) Products such as wine and spirits must be unit priced in metric only in accordance with federal law.

(h) Unit pricing based on non-standard or ambiguous measures (e.g., "uses", "servings") is prohibited.

(Amended 202X)

Section ~~6~~7. Uniformity

(a) If different brands or package sizes of the same consumer commodity are expressed in more than one unit of measure (e.g., soft drinks are offered for sale in 2 L bottles and 12 fl oz cans), the retail establishment shall unit price the items consistently **in the same unit of measure**.

(b) When metric units appear on the consumer commodity in addition to other units of measure, the retail establishment **or e-commerce** site may include both units of measure on any stamps, ~~tags, labels, signs,~~ sign, label, **ESL,** tag or list.

(Amended 202X)

Section ~~7~~8. Effective Date

This regulation shall become effective on _____, 20__.

Given under my hand and the seal of my office in the City of _____ on this _____ day of _____, 20_____.

Signed _____

(Amended 1997 **& 202X**)

NIST OWM Detailed Technical Analysis:

Adopting UPR 26.1 ensures that consumers can compare products on a clear, common basis (price per unit of weight, volume, count, etc.), which is critical as package sizes and configurations change frequently. With standardized unit price expressions and rounding rules, shoppers can readily detect when apparent "same price" products actually offer less quantity, directly addressing shrinkflation and similar pricing methods that can distract from the real value.

By adopting these unit pricing requirements directly into state regulation, jurisdictions can provide a durable, enforceable framework for transparent pricing rather than relying on voluntary retailer practices or potentially inconsistent store level approaches. This improves marketplace fairness for both consumers and honest retailers who already invest in accurate, clear shelf labels.

UPR 26.1 is part of the NCWM/NIST model system of uniform regulations that many states already reference in their weights and measures statutes. Adopting it as written minimizes state specific deviations, which is important for regional and national chains that must currently navigate a patchwork of mandatory, voluntary, and absent unit pricing requirements.

Regulatory uniformity also benefits state programs by allowing use of common training materials, checklists, and guidance developed around the NIST model rather than maintaining specific individual state standards. This increases the efficiency of inspections and facilitates mutual assistance and shared best practices among jurisdictions, especially where resources for legal metrology are constrained.NIST, along with industry, consumer advocates, international experts, Electronic Shelf Labeling (ESL) manufactor and the NCWM, have updated the Unit Pricing Guide - A Best Practices Approach to Unit Pricing (NIST SP 1181) to address electronic shelf labels and e commerce environments. UPR 26.1, as developed and refined

in NCWM Publication 15, is designed to harmonize with this contemporary guidance so that state law keeps pace with how prices are actually communicated to consumers today.

Without adopting the updated uniform regulation, states risk having outdated provisions that do not clearly cover electronic shelf labels, online listings, or app based pricing, creating enforcement gaps and legal ambiguity. Aligning with UPR 26.1 positions the state to regulate both brick and mortar and digital environments consistently, supporting technology neutral oversight.

UPR 26.1 reflects a consensus process involving regulators, industry, and consumer groups under NIST and NCWM, making it a highly defensible benchmark for "reasonable" and "practicable" unit pricing requirements. By incorporating this language directly, states gain a tested, nationally recognized standard that courts, retailers, and consumers already understand in the broader context of Handbook 130 and related NIST publications.

Using the this language also allows state officials to align enforcement protocols with national training and guidance, improving consistency of inspections and reducing disputes over interpretation. This in turn enhances public confidence that pricing rules are not arbitrary, but grounded in a transparent, science based legal metrology framework that many jurisdictions share.

Summary of Discussions and Actions:

This item is new for the 2026 NCWM cycle. There has been no discussion at the NCWM level.

Regional Association Reporting:

Western Weights and Measures Association

At the WWMA 2025 Annual Meeting (October 2025): This agenda item was not heard at the WWMA meeting. No comments or status recommendation.

Southern Weights and Measures Association

At the SWMA 2025 Annual Meeting (October 2025), Mr. Tory Brewer with the state of West Virginia recommends this item be given Informational status. Mr. Mauricio Mejia, with the state of Florida, echoes West Virginia's comments.

The Committee admitted this item during open hearings and opened it for comments though it was not in the Laws & Regulations Committees agenda. The Committee recommends this item be added to the table of contents and, therefore, the agenda at the NCWM interim and recommends an Informational Status based on the comments received on the floor.

Northeastern Weights and Measures Association

At the NEWMA 2025 Interim Meeting (October 2025), This agenda item was not heard at the NEWMA meeting. No status or recommendation.

Central Weights and Measures Association

At the CWMA 2025 Interim Meeting (September 2025), Two regulators recommended developing on this item. It was suggested to receive input from more stakeholders.

The CWMA L&R Committee recommends a developing status for this item.

FLR – UNIFORM FUELS AND AUTOMOTIVE LUBRICANTS REGULATION

FLR-26.1 – 7.2. Reproducibility Limits

Source: Colorado Division of Oil and Public Safety

Submitter's Purpose and Justification:

This proposal aims to clarify section 7.2.5. – Enforcement Action in the Uniform Fuels Regulation to address misleading and inadequate language from 2008.

Original Justification:

Nationwide, all state jurisdictions that are adopting the fuel quality regulations of NIST HB 130 acknowledge reproducibility* limits of analytical test methods for enforcement action purposes.

Though these reproducibility limits (R) are acknowledged by these state regulatory agencies authorized to assure fuel quality, the objective and intent for all parties involved is to meet legal requirements, not to exploit the space given between a legal limit and the (acknowledged) reproducibility limit.

With the intent to avoid the exploitation of such R values by any regulated party, section 7.2.5. – Additional Enforcement Action was originally published in 2008 and amended in 2018.

The applicable section currently reads:

"7.2.5. Additional Enforcement Action. The Director may initiate enforcement action in the event that, based upon a statistically significant number of samples, the average test result for

products sampled from the same source location is greater than the legal maximum or less than the legal minimum limits (specification value), posted value, certified values, or registered values."

However, the current language insufficiently articulates its intent, and obscures proper approach and conditional parameters. More specifically, the current Enforcement Action language does not articulate that its intent is to address situations where fuel quality characteristics are within reproducibility limits but often outside legal requirements. In addition, the language "the average test result for products sampled from the same source location" can mislead a regulatory agency to average a number of test results obtained from the same sample specimen**. However, "the average test result" shall be calculated from a number of independent test results obtained from independent sample specimens, each of which represent the same product, from the same location, sampled at different times. Finally, the word "additional" in the title "Additional Enforcement Action" implies that other enforcement action(s) already took place.

However, that won't be the case because in most scenarios no enforcement actions will have been taken after each individual sampling and testing event, because the regulating agency acknowledged reproducibility limits at the conclusion of each individual sampling and testing event though the single test result exceeded legal limits.

When these discrepancies were first brought to the Fuels and Lubricants Subcommittee's attention during the NCWM Interim Meeting in January of 2025, a focus group*** comprising of 13 diverse stakeholders from fuel industry and regulatory agencies was established. After email correspondence, two virtual

meetings and an in-person meeting during the Annual NCWM Meeting in July of 2025, consensus on the following language was reached within the diverse focus group:

“To avoid the exploitation of a test method's reproducibility limits by any regulated party, the Director may initiate enforcement action when several independent test results, of the same product sampled from the same source location at different times, are exceeding legal limits (such as specification values, posted values, certified values, or registered values). (Added 202X).”

Consensus on the title and position within section 7. Test Methods and Reproducibility Limits were also reached by the focus group, and are as follows:

7.2.2.1. Enforcement Action

This title resolves the currently inaccurate title, and the sub-placement of this Enforcement Action regulation as 7.2.2.1 links it directly to its intended scope:

Section 7.2.2. Reproducibility.

In addition, Section 7.2.4. Dispute Resolution represents a process possibly necessary AFTER enforcement actions were initiated by a regulating agency. Hence, dispute resolutions should conclude Section 7. Test Methods and Reproducibility Limits, instead of end with 7.2.5 Additional Enforcement Action as currently published in HB 130.

* Reproducibility (R) of a standard test method is most often defined by the standard organization ASTM as the variability between single analytical test results obtained in different laboratories, each of which has applied the test method to test specimens taken from a single quantity of homogenous material.

** A sample specimen is a portion taken from a storage tank, truck, or dispenser, etc., is representative of a larger amount of product, and is used for testing to determine the quality, composition, as well as performance and safety suitability of a fuel product.

*** Enforcement Action Focus Group members: Kevin Adlaf, Vanessa Benchea, Scott Fenwick, Steven Harrington, Marilyn Herman, Randy Jennings, Russ Lewis, Vernon Miller, Timothy

Morales, Tamara Paik, Matthew Sheehan, and Jenny Tabbert.

It is not expected that there will be any opposition as this proposal is simply clarifying language in HB 130.

The submitter requested Voting status in 2026.

NIST OWM Executive Summary

FLR-26.1 – 7.2. Reproducibility Limits
NIST OWM Recommendation: Voting • The language provided section 7.2.2.1., more specifically, the word “exploitation”, is detrimental in its connotation. NIST OWM supports this item as voting with the following language suggestion:

FLR-26.1 – 7.2. Reproducibility Limits
• **7.2.2.1 Enforcement Action. - To ensure that the test methods' defined reproducibility limits are applied in a technically consistent manner by all regulated parties, the Director may initiate enforcement action when several independent test results, of the same product sampled from the same source location at different times, are exceeding legal limits (such as specification values, posted values, certified values, or registered values).** **(Added 202X)**

Table 2. Summary of Recommendations
FLR-26.1 – 7.2. Reproducibility Limits

	Status Recommendation	Note*	Comments
Submitter	Voting		
OWM	Voting		With amended language
WWMA	Voting		
NEWMA	No recommendation		
SWMA	Assigned		
CWMA	Informational		
NCWM			

	Number of Support Letters	Number of Opposition Letters	Comments
Industry			
Manufacturers			
Retailers and Consumers			
Trade Association			

***Notes Key:**
1. Submitted modified language
2. Item not discussed
3. No meeting held
4. Not submitted on agenda
5. No recommendation or not considered

Item Under Consideration:

Amend NIST Handbook 130 Uniform Fuels and Automotive Lubricants Regulation as follows:

7.2. Reproducibility Limits.

7.2.1. AKI Limits. – When determining the antiknock index (AKI) acceptance or rejection of a gasoline sample, the AKI reproducibility limits as outlined in the latest version of ASTM D4814, "Standard Specification for Automotive Spark-Ignition Engine Fuel," Appendix X1 shall be acknowledged for enforcement purposes.

7.2.2. Reproducibility. – The reproducibility limits of the standard test method used for each test performed shall be acknowledged for enforcement purposes, except as indicated in Section 2.2.1. Premium Diesel Fuel and Section 7.2.1. AKI Limits. No allowance shall be made for the precision of the test methods for aviation gasoline or aviation turbine fuels.
(Amended 2008)

7.2.2.1 Enforcement Action. - To avoid the exploitation of a test method's reproducibility limits by any regulated party, the Director may initiate enforcement action when several independent test results, of the same product sampled from the same source location at different times, are exceeding legal limits (such as specification values, posted values, certified values, or registered values).
(Added 202X).

7.2.3. SAE Viscosity Grades for Engine Oils. – With the exception of the low-temperature cranking viscosity, all values required to define SAE Viscosity Grades, as defined in the latest version of SAE J300, "Engine Oil Viscosity Classification", are critical specifications as defined by the latest version of ASTM D3244, "Standard Practice for Utilization of Test Data to Determine Conformance with Specifications".
(Added 2008) (Amended 2021)

7.2.4. Dispute Resolution. – In the event of a dispute over a reported test value, the guidelines presented in the latest version of ASTM D3244, "Standard Practice for Utilization of Test Data to Determine Conformance with Specifications," shall be used to determine the acceptance or rejection of the sample.

~~**7.2.5. Additional Enforcement Action. The Director may initiate enforcement action in the event that, based upon a statistically significant number of samples, the average test result for products sampled from the same source location is greater than the legal maximum or less than the legal minimum limits (specification value), posted values, certified values, or registered values.**~~
~~**(Added 2008) (Amended 2018)**~~

NIST OWM Detailed Technical Analysis:

The language provided section 7.2.2.1., more specifically, the word "exploitation", is detrimental in its connotation. NIST OWM supports this item as voting with the following language amendment:

7.2. Reproducibility Limits.

7.2.1. AKI Limits. – When determining the antiknock index (AKI) acceptance or rejection of a gasoline sample, the AKI reproducibility limits as outlined in the latest version of ASTM D4814, "Standard Specification for Automotive Spark-Ignition Engine Fuel," Appendix X1 shall be acknowledged for enforcement purposes.

7.2.2. Reproducibility. – The reproducibility limits of the standard test method used for each test performed shall be acknowledged for enforcement purposes, except as indicated in Section 2.2.1. Premium Diesel Fuel and Section 7.2.1. AKI Limits. No allowance shall be made for the precision of the test methods for aviation gasoline or aviation turbine fuels.
(Amended 2008)

7.2.2.1. Enforcement Action. - To ensure that the test methods' defined reproducibility limits are applied in a technically consistent manner by all regulated parties, the Director may initiate enforcement action when several independent test results, of the same product sampled from the same source location at different times, are exceeding legal limits (such as specification values, posted values, certified values, or registered values).
(Added 202X).

7.2.3. SAE Viscosity Grades for Engine Oils. – With the exception of the low-temperature cranking viscosity, all values required to define SAE Viscosity Grades, as defined in the latest version of SAE J300, "Engine Oil

Viscosity Classification", are critical specifications as defined by the latest version of ASTM D3244, "Standard Practice for Utilization of Test Data to Determine Conformance with Specifications".

(Added 2008) (Amended 2021)

7.2.4. Dispute Resolution. – In the event of a dispute over a reported test value, the guidelines presented in the latest version of ASTM D3244, "Standard Practice for Utilization of Test Data to Determine Conformance with Specifications," shall be used to determine the acceptance or rejection of the sample.

Summary of Discussions and Actions:

This item is new for the 2026 NCWM cycle.

Regional Association Reporting:

Western Weights and Measures Association

At the 2025 WWMA Annual Meeting (September 2025), The WWMA L&R Committee Chair Mr. Scott Wagner recused himself from the L&R working session for this item as he represents the submitter of this item.

Mr. Mahesh Albuquerque (Colorado Division of Oil and Public Safety) stated that Dr. Jenny Tabbert (Colorado) submitted this item and considers it a cleanup item which has been vetted by a focus group with FALS.

Mr. Matt Douglas (Representing the WWMA L&R Committee) asked a clarifying question regarding the omission of language regarding "…less than the legal minimum limits..." which appears in the current language but not in the proposal.

Mr. Randy Jennings (Vice Chair for FALS – temporarily performing the duties of the FALS Chair) responded to Mr. Douglas clarifying that the word "exceeding" is intended to be inclusive of "above" or "below" the legal limits. Mr. Jennings then provided comments that he was a participant in the 7.2 Reproducibility Limits Focus Group which held several meetings in the development of the proposed language. The Focus Group supports the item and it is his intention to meet with FALS after the regional meetings to seek consensus from FALS on this item. Mr. Jennings supported a voting status for this item.

Mr. Russ Lewis (Marathon Petroleum) stated that the "exceeding" language was reviewed by counsel as part of the development of the item and supported a voting status.

Mr. Matt Sheehan (Chevron) and Matt Douglas (California Division of Measurement Standards) also supported a voting status for this item.

The WWMA L&R Committee recommends a voting status.

Southern Weights and Measures Association

At the 2025 SWMA Annual Meeting (October 2025), Mr. Randy Jennings, Vice-Chair of FALS, also temporarily performing the duties of FALS Chair, and a participant on the 7.2 Reproducibility Limits Focus Group commented that the Focus group chair Jenny Tabbert, CO, held several virtual meetings this semester that resulted in the development of the language as presented. The Focus Group Members support the amendment as presented and recommends a Voting Status. It is Mr. Jennings intent to convene a FALS virtual meeting after the Fall Regional meetings and prior to the NCWM Interim. The aim of this meeting will be to seek consensus on this item from FALS as a whole. With that being said, Mr. Jennings

commented that they have received feedback from one FALS member expressing concerns with the amended language so this will need vetting within FALS and we will report the subcommittee status at the Interim.

Based on the comments made from the floor the Committee recommends this item an Assigned status.

Northeastern Weights and Measures Association

At the 2025 NEWMA Interim Meeting (October 2025), No comments were heard during open hearings. The committee received a late submission of a supporting document indicating opposition to the item. The supporting document was not reviewed by the committee, but was subsequently posted to the NEWMA website.

As no comments were heard from the floor and the late supporting documents were not reviewed, the committee did not recommend a status for this item, and the body concurred.

Central Weights and Measures Association

At the 2025 CWMA Interim Meeting (September 2025), Ron Hayes, Retired, said the new language has become too specific and may change what FALS intended the language to be.

The CWMA L&R Committee recommends an informational status for this item.

ECM – UNIFORM E-COMMERCE REGULATION

ECM-26.1 – Section 2. Definitions, Section 3. Required Declarations for E-commerce Sites Offering Products for Sale, Section 5. Unit Pricing Requirements on E-Commerce Sites for Products Offered for Sale, Section 10. Prominence and Placement of Required Information on E-commerce Sites: Offering E-commerce Products for Sale

Source: NIST Office of Weights and Measures

Submitter's Purpose and Justification:

Adding unit pricing to e-commerce websites helps shoppers make more informed and cost-effective purchasing decisions by displaying the price per standardized unit of measure, such as per ounce, liter, or count, alongside the total product price. This transparency allows customers to easily compare the value of different product sizes, brands, and package types, ultimately fostering trust in the retailer. By simplifying comparison shopping, unit pricing can improve the user experience, encourage customer loyalty, and support better purchasing choices, while also aligning the platform with consumer protection best practices and potential regulatory requirements.

Original Justification:

Including unit pricing on e-commerce websites is justified because it directly addresses the common challenge consumers face in comparing product value across varying package sizes and brands. Without a

standardized cost per unit, shoppers may unintentionally overpay or overlook better-value options. Unit pricing eliminates ambiguity, enabling data-driven purchasing decisions that can lead to increased customer satisfaction and stronger brand loyalty. Additionally, many consumer advocacy groups and regulatory bodies promote or mandate unit pricing as a best practice, meaning its adoption can help ensure legal compliance while signaling a retailer's commitment to transparency and fairness in pricing.

The submitter acknowledged that Integrating accurate unit pricing can be complex, especially across thousands of products with varying packaging sizes and units. Ensuring consistency and correctness may require significant technical investment, increasing retailers' operational costs.

The submitter requested Voting status in 2026.

NIST OWM Executive Summary

ECM-26.1 – Section 2. Definitions, Section 3. Required Declarations for E-commerce Sites Offering Products for Sale, Section 5. Unit Pricing Requirements on E-Commerce Sites for Products Offered for Sale, Section 10. Prominence and Placement of Required Information on E-commerce Sites: Offering E-commerce Products for Sale

NIST OWM Recommendation: Voting

- Corrected the spelling of the word "for" in the Title.
- NIST OWM believes States should adopt EMC 26.1 because it:
  - Harmonizes model regulations with the NIST SP 1181 best practice framework, delivering clear, consumer friendly and uniform unit price presentation in all forums (in store, ESL, and e commerce)
  - Provides a technology avenue for electronic marketing and commerce, closing the gaps in unit pricing regulations that do not clearly cover apps, websites, and electronic shelf labels.
  - Reduces regulatory fragmented and compliance costs by aligning state requirements with nationally vetted model language and NIST guidance, supporting consistent enforcement and market fairness.

Table 2. Summary of Recommendations

ECM-26.1 – Section 2. Definitions, Section 3. Required Declarations for E-commerce Sites Offering Products for Sale, Section 5. Unit Pricing Requirements on E-Commerce Sites for Products Offered for Sale, Section 10. Prominence and Placement of Required Information on E-commerce Sites: Offering E-commerce Products for Sale

	Status Recommendation	Note*	Comments
Submitter	Voting		
OWM	Voting		
WWMA	Voting		
NEWMA	Developing		
SWMA	Developing		
CWMA	Voting		
NCWM			

	Number of Support Letters	Number of Opposition Letters	Comments
Industry			
Manufacturers			
Retailers and Consumers			
Trade Association			

***Notes Key:**

1. Submitted modified language
2. Item not discussed
3. No meeting held
4. Not submitted on agenda
5. No recommendation or not considered

Item Under Consideration:

Amend NIST Handbook 130 Uniform E-commerce Regulation as follows:

Section 2. Definitions

…

2.21. Unit Price – A Unit price is the cost per unit of measure of products, such as the cost per milliliter or per ounce.
(Amended 202X)

…

Section 3. Required Declarations for E-commerce Sites Offering Products for Sale

3.1. E-commerce Site Requirements for Standard Packages. – The following shall apply to e-commerce sites on which standard packages are offered for sale:

(a) **Declaration of Identity.** – The product declaration of identity shall appear on the e-commerce site in a conspicuous and prominent location. Wherever applicable, the product brand name or manufacturer/distributor name shall be combined with the declaration of identity. This information shall be provided separately from and in addition to any picture or image of the product (See Section 7 Declaration of Identity: E-commerce Products for additional information.)

(b) Declaration of Unit Price - The unit price of the product shall appear on the e-commerce site in a conspicuous and prominent location. This information shall be provided separately from and in addition to any picture or image of the product (See Section 5. Unit Pricing Requirements on E-Commerce Sites for Products Offered for Sale for additional information).

(c) **Declaration of Net Quantity.** – The declaration of net quantity shall appear on the e-commerce site in a prominent location and in a conspicuous manner which clearly communicates the package net quantity. This information shall be provided separately from and in addition to any picture or image of the product. This information shall be provided in both U.S. customary and SI units for products subject to the Fair Packaging and Labeling Act or as mandated for products under other Federal regulations (See Section 6. Declaration of Quantity – E-commerce Products for additional information.)

(d) **Product Price.** – The price of the product shall appear on the e-commerce site in a conspicuous and prominent location. Added cost information (if any) for shipping, delivery, taxes, and other services shall be provided to the customer prior to the completion of check-out and payment.

(e) **Product Photo or Visual Product Representation/Image.** – The e-commerce site shall provide a photo or visual representation (image) of the product to help consumers confirm the identity of the item they intend to purchase. While a product photo or image may show certain required information, required information shall appear separately from the picture/representation. Any information provided in the picture/image shall not conflict with information required by this regulation (See Section 9. Product Photograph or Accurate Product Depiction/Representation: E-commerce Site Requirements for additional information).

(f) **Brand Name or Product Manufacturer.** – The e-commerce site shall provide the name of the manufacturer, distributor or the brand of any product offered for sale, where applicable (See Section 8. Declaration of Responsible Person: E-commerce Products for additional information.)
(Amended 20XX)

…

Section 5. Unit Pricing Requirements on E-Commerce Sites for Products Offered for Sale

5.1. Products Subject to Unit Pricing on E-commerce Sites.

~~(a)~~ Unit price information is required for bulk products ~~and~~**along** with **standard and** random packages offered for sale on an e-commerce site.
(Amended 20XX)

~~(b) Unit price information is optional for standard packages offered for sale on e-commerce sites.~~

5.2. Required Unit Price Information. – The unit price shall be consistent with the required method of sale for the product. An e-commerce site shall determine the most effective units for ensuring value comparison of similar products with varying product sizes. Unit prices shall employ consistent units of measure for similar or competing products posted on the same e-commerce site (e.g., price per ounce, price per inch, etc.) **(See Notes 1 & 2)**

(a) The declaration of the unit price of a particular commodity in all package sizes offered for sale on an e-commerce site shall be uniformly and consistently expressed in terms of:

(1) Price per kilogram or 100 g, or price per pound or ounce, if the net quantity of contents of the product is in terms of weight.

(2) Price per liter, or 100 mL, **cubic meter, cubic decimeter, or cubic centimeter,** or price per dry quart, or dry pint**, cubic yard, cubic foot, or cubic inch** if the net quantity of contents of the product is in terms of dry measure or volume.

(3) Price per liter or 100 mL, or price per gallon, quart, pint, or fluid ounce, if the net quantity of contents of the product is in terms of liquid volume.

(4) Price per individual unit or multiple units if the net quantity of contents of the product is in terms of count.

(5) Price per square meter, square decimeter, or square centimeter, or price per **100 square feet,** square yard, square foot, or square inch, if the net quantity of contents of the product is in terms of area.

(6) Price per meter, decimeter, centimeter, or price per yard, foot, 100-feet, or inch if the net quantity of contents of the product is in terms of length.

(b) The following exemptions from unit pricing requirements above are permitted:

~~(1) **Small Packages.** – Products shall be exempt from these provisions when packaged in quantities of less than 28 g (1 oz) or 29 mL (1 fl oz) or when the total retail price is 50 cents ($0.50) or less.~~

~~(2) **Single Items.** – Products shall be exempt from these provisions when only one brand in only one size is offered for sale in a particular retail establishment.~~

(3) **Infant Formula.** – For "infant formula," unit price information may be based on the reconstituted volume. "Infant formula" means a food that is represented for special dietary use solely as a food for infants by reason of its simulation of human milk or suitability as a complete or partial substitute for human milk.

(4) **Variety and Combination Packages.** – Variety and Combination Packages as defined in Section 2.9. Combination Package and Section 2.10. Variety Package in the UPLR [see **Section 5. *NOTE***] shall be exempt from these provisions.

(c) Unit pricing expressions shall be listed to the nearest cent when it is a dollar or more. If the unit price is under a dollar, it shall be listed to the tenth of a cent or the whole cent, but both methods cannot be used simultaneously. The e-commerce site shall be accurate and consistently use the same method of rounding to compute the unit price to the whole cent.

(d) The unit price information shall be displayed adjacent to the product pricing information.

Section 5. NOTE 1: See NIST Handbook 130, Uniform Packaging and Labeling Regulation.
***Section 5. NOTE 2*: See NIST Handbook 130 Uniform Unit Price Regulations.**
(Amended 202X)

…

Section 10. Prominence and Placement of Required Information on E-commerce Sites: Offering E-commerce Products for Sale

10.1. General Requirements. – All information required to appear on the e-commerce site which offers products for sale shall appear thereon in the English language and shall be prominent, definite, plain, and conspicuous as to size and style of letters and numbers and as to color of letters and numbers in contrast to color of background. Any required information that is either in hand lettering or hand script shall be entirely clear and equal to printing in legibility.

Location. – The required e-commerce site declarations below shall be present in the top 50 % the screen in which the product is offered for sale:

(1) identity;

(2) net quantity;

(3) product price;

(4) brand or manufacturer name; and

(5) package picture or photographic representation/depiction.

(6) <u>Unit Price</u>

(a) **Style of Type or Lettering.** – The required e-commerce site declarations shall be in such a style of type or lettering as to be boldly, clearly, and conspicuously presented with respect to other type, lettering, or graphic material on the screen.

(b) **Color Contrast.** – The required e-commerce site declarations shall be in a color that contrasts conspicuously with its background.

(c) **Package Picture or Photographic Representation.** – The product picture or photographic depiction shall be in the actual colors of the package or product. Slight variations in color shading are acceptable.

(Amended 20XX)

NIST OWM Detailed Technical Analysis:

The NCWM Package and Labeling subcommittee has diligently provide the model regulation in NIST Handbook 130. NIST OWM gather a National Workgroup to update NIST Special Publication (SP 1181) to a 2025 edition. This agenda item lays out detailed best practices for how unit price information should be formatted, rounded, labeled, and displayed so that it is easy for consumers to find, read, and use when comparing values. The Laws and Regulations agenda item EMC 26.1 is designed to synchronize the legal requirements in the Uniform Unit Pricing Regulation with those best practices, ensuring that what is currently in model regulation matches what NIST OWM National workgroup identified as the most effective presentation for shoppers.

By adopting EMC 26.1, a state can update enforceable standards for regulated retailers, which directly advances the national objective of more uniform, consumer friendly unit pricing across jurisdictions and retail formats. This alignment also avoids conflicting signals to retailers, who otherwise may face one set of recommendations and a different, or outdated regulatory text.

SP 1181's current update process explicitly targets new technology, including electronic shelf labels (ESLs), e commerce apps, and online advertising, recognizing that price communication is rapidly moving

off paper tags and into digital channels. This agenda item incorporates these concepts into model regulatory language, clarifying how unit prices must appear in electronic marketing and commerce environments so that digital shoppers receive the same protections as in store (brick and mortor) customers.

States that rely on older unit pricing provisions often lack clear authority or detailed rules for electronic presentations of unit prices, leaving gaps around mobile apps, web listings, and dynamic ESL systems. This allows regulators to address those gaps with nationally coordinated language that has been developed in tandem with SP 1181's technology focused best practices, rather than crafting state specific fixes that may quickly become obsolete.

NIST OWM emphasize that unit pricing in the U.S. is governed state by state, with jurisdictions having mandatory or voluntary rules and significant variation in how they are written and applied. This agenda item offers a common, consensus based model that states can adopt to reduce this fragmentation, enabling retailers to implement a single, coherent unit pricing program supported by SP 1181. Adopting this item would eliminate multiple states managing a patchwork of differing formats and obligations.

The adoption of EMC 26.1 will help provide industry with needed guidance and can be built around one harmonized standard. That in turn improves consistency of enforcement actions, enhances fairness in the marketplace, and supports cross jurisdiction collaboration on legal metrology for unit pricing.

Summary of Discussions and Actions:

This item is new for the 2026 NCWM cycle.

Regional Association Reporting:

Western Weights and Measures Association

At the 2025 Annual Meeting (September 2025), Mr. Kurt Floren (County of Los Angeles, California) made a statement recognizing that this item for unit pricing in e-commerce is being considered for adoption while unit pricing for physical retail locations is not uniformly adopted; however, there is a difference in the ease of making sufficient and adequate cost comparisons in-person as opposed to online. For that reason, he supports the item.

Mr. Jose Arriaga (County of Orange, California), Mr. Aaron Yanker (Colorado Department of Agriculture, Weights and Measures), and Mr. Matt Douglas (California Division of Measurement Standards) all joined in supporting the item for voting status.

The WWMA L&R Committee recommends a voting status.

Please note there is a typo in the title of this item: the word "for" is spelled "foe".

Southern Weights and Measures Association

At the 2025 SWMA Annual Meeting (October 2025), The Committee received no comments made during open hearing.

The Committee heard no opposing nor supporting comments during open hearings. The submitter was not present. The Committee believes this item needs to be further vetted by the NCWM membership and recommends a Developing status.

Northeastern Weights and Measures Association

At the 2025 NEMWA Interim Meeting (October 2025), Regulators from Vermont and New York commented that they support the item. A regulator from New Jersey commented that the item has merit and keeping the online spaced consistent with the brick-and-mortar space is always a good idea. However, the only issue envisioned is continuity of enforcement with states that have separate unit pricing regulations that may not be in line with this model regulation. New Jersey recommended a Developing status.

After hearing comments from the floor, the committee recommended a Developing status, and the body concurred.

Central Weights and Measures Association

At the 2025 CWMA Interim meeting (September 2025), Ivan Hankins, IA, and Shelly Miller, WI-Retired, both supported this item.

The CWMA L&R Committee recommends a voting status for this item.

OTH – OTHER ITEMS

OTH-24.1 A X. Uniform Shipment Law

Source: New Hampshire Weights and Measures / New Hampshire Department of Agriculture, Markets & Food

Submitter's Purpose and Justification:

Provide model law language to address the shipment of goods.

Original Justification:

Current shipping practices may result in incorrect overcharges and misleading pricing. It has been documented through investigations that carriers or freight brokers have incorrectly billed shippers on goods shipped. Documentation provided by carriers to both shippers and weights and measures officials lack relevant information needed to fully investigate complaints within the shipping industry.

Carriers may have language in their contracts that inform the shipper of possible audits of their shipped goods and subsequent correction and audit fees.

The submitter requested Voting status in 2024.

NIST OWM Executive Summary

OTH-24.1 A X. Uniform Shipment Law

NIST OWM Recommendation: Assigned

- This item should be in the Weights and Measures (WAM) series, not Other (OTH) as the task group is recommending the item become a model "Uniform Shipping Law".
- NIST OWM supports the task group and looks forward to their work. NIST OWM questions how this new law will coincide with the Federal regulations and which entity will handle disputes, in essence who the regulatory authority on interstate commerce if/when States is have adopted this model law. We believe that prior to adoption this question needs to be answered. NIST OWM recommends the task group research the "Commerce Clause" to ensure no federal preemption.

Table 2. Summary of Recommendations

OTH-24.1 A X. Uniform Shipment Law

	Status Recommendation	Note*	Comments
Submitter	Voting		
OWM	Assigned		
WWMA	Voting		
NEWMA	Voting		
SWMA	Assigned		
CWMA	Informational		
NCWM			

	Number of Support Letters	Number of Opposition Letters	Comments
Industry			
Manufacturers			
Retailers and Consumers			
Trade Association			

***Notes Key:**

1. Submitted modified language
2. Item not discussed
3. No meeting held
4. Not submitted on agenda
5. No recommendation or not considered

Item Under Consideration:

Adopt a new NIST Handbook 130 Uniform Shipment Law as follows:

X. Uniform Shipment Law

Section 1. Purpose

To ensure transparent, equitable, and accountable shipment practices concerning the weight, measure, and freight classification of shipped goods.

Section 2. Scope

This Act:

(a) establishes an enforcement program;

(b) empowers the state to promulgate regulations as needed to carry out the provisions of the Act;

(c) provides for civil and criminal penalties.

Section 3. Definitions

As used in this Act:

3.X. Bill of Lading (BOL) / Waybill. – A legal instrument used in the transportation and shipment industries which lists the goods being shipped and the terms under which they will be delivered.

3.X. Carrier. – The business that transports an amount of goods.

3.X. Carrier Inspection Certificate. – A document used to signify that shipped goods have been inspected pertaining to, but not limited to, classification, density, weight, or measure.

3.X. Freight Class. – A system that groups freight into categories based on four factors: density, handling, stowability, and liability.

3.X. Goods. – All things which are movable and can be transported.

3.X. Handling Unit. – A single item or group of items that are packaged together and handled as a single unit throughout the shipping process. Handling units refer to packages or containers. These units are designed to facilitate the efficient and safe transportation, storage, and management of goods. They can vary in size and form.

3.X. Measuring System. – A set of devices and affiliated software used to measure and record the quantity, weight, volume, or size of goods. This includes all parts of the system, as well as where recorded representations are determined, and shall be approved for use by the state enforcement official in accordance with accepted standards.

3.X. National Motor Freight Classification (NMFC) Code. – A numeric code used in the U.S. freight industry to classify goods for shipping.

3.X. Progressive Number (Pro / Tracking Number). – A unique numeric identifier issued by a carrier for identification and tracking of a shipper's specific order.

3.X. Quote. – A competitively solicited offer to furnish supplies or services by a method of procurement that is less formalized than a bid or a proposal.

3.X. Shipment. – A quantity of goods shipped with a carrier.

3.X. Shipper. – Individuals or businesses that send or request goods using a carrier.

3.X. Terminal or Service Center. – A facility designated for managing and coordinating the movement of trucks and goods, and may facilitate the assessment of goods for weight, measure, and freight classification.

3.X. Third-Party Logistics (3PL) Provider / Shipping Broker / Freight Forwarder. – An intermediary between the shipper and the carrier who coordinates and facilitates the transportation of goods and may include the arrangement of the import and export of cargo.

3.X. Unique Identifier. – A distinct code or number assigned to an individual, entity, document, or item that differentiates it from all others in a system.

3.X. Director. – The _____ of the Department of _____.

Section 4. Enforcing Official: Rules and Regulations

The Director is authorized to:

- **(a) enforce the provisions of this Act;**
- **(b) issue reasonable regulations for the enforcement of this Act that shall have the force and effect of law; and**
- **(c) adopt rules that include, but are not limited to;**
  - **(1) adherence to the provided written quote from either the carrier or 3PL is required, contingent upon the shipper supplying accurate and complete documentation pertaining to the shipment;**
  - **(2) the weighing, measuring, and freight class accuracies that must be followed;**
  - **(3) the required information that shall be submitted by both the carrier and 3PL to the shipper, if a correction is applied; and**
  - **(4) the period of recordkeeping in accordance with Title 49 Subtitle B Chapter III Subchapter B Part 379 Appendix A;**

Section 5. Weighing and Measuring Practices and Equipment Used

All entities, including but not limited to, shippers, 3PL's, or carriers, shall use weighing and measuring practices and equipment:

- **(a) in accordance with the requirements of the latest edition of NIST Handbook 44, "Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices"; and**
- **(b) that have been examined, tested, and approved for use by either a weights and measures official or authorized service provider. In the absence of an applicable NTEP program for said device, it shall be used in accordance with the manufacturer's approved application.**

Section 6. Weighing Device Used

All entities, including but not limited to shippers, 3PLs, or carriers, shall use an NTEP-approved weighing device. In the absence of an applicable NTEP program for said device, it shall be used in accordance with the manufacturer's approved application.

Section 7. Measuring Device Used

All entities, including but not limited to shippers, 3PLs, or carriers, shall use an NTEP-approved measuring device. In the absence of an applicable NTEP program for said device, it shall be used in accordance with the manufacturer's approved application.

Section 8. Carrier Inspection Certificate - Required Entries

(a) The documentation, when properly completed and signed, including digital signatures, shall be prima facie evidence of the accuracy of the recorded results and procedures followed.

(b) The recorded information to be provided on the documentation shall be prescribed by the Director and will include, but not be limited to, the following:

- **(1) employee identifier of the individual(s) who conduct(s) the inspection;**
- **(2) date and time of the inspection;**
- **(3) identifying information for the issuing terminal to include physical address and contact information;**
- **(4) unique identifier of the weighing or measuring device used to conduct the inspection;**
- **(5) indicated reweigh or remeasure value from the weighing device or measuring device for each handling unit;**
- **(6) indicated NMFC code and commodity description related to freight class for each handling unit or shipment correlating to a change in weight, measure, or density;**
- **(7) identifying information for both the Pro Number and BOL, if applicable; and**
- **(8) name and address of the shipper from the point of origin.**

Section 9. Copies of Carrier Inspection Certificates

The carrier and 3PL shall keep and preserve for the period of two years, a legible copy of each inspection certificate issued to the shipper. The certificates, as required in Section 8. Carrier Inspection Certificate - Required Entries, shall be available for inspection within 48 hours by a weights and measures official during normal business hours.

Section 10. Prohibited Acts

It shall be unlawful if any entity:

(a) violates any provisions of this Act or any regulation promulgated under this Act, with intent to defraud; or

(b) knowingly or with intent to defraud -

- **(1) provides a false commodity description, freight class, NMFC code, density, weight, or measurement either orally or written;**
- **(2) satisfies fewer than all requirements of this Act as stated in Sections 5, 6, 7, 8, and 9;**

(3) hinders or obstructs in any way the Director or their authorized agent in the performance of the Director's official duties under this Act;

(4) uses or have in their possession a measuring system or any of its components that have been designed, modified, or used to facilitate fraud, or that has not been approved for commercial use by a weights and measures agency and/or official, or other authorized regulatory authority having jurisdiction over the measuring system.

Removed (5) language which mimicked 10 (a).

Section 11. Civil Penalties

11.1. Assessment of Penalties. – Any entity who by themselves or by their servant or agent commits any of the acts enumerated in Section 10. Prohibited Acts may be assessed by the _____ a civil penalty of:

(a) not less than $ nor more than $ for a first violation,

(b) not less than $ nor more than $ for a second violation within from the date of the first violation, and

(c) not less than $ nor more than $ for a third violation within from the date of the first violation.

11.2. Administrative Hearing. – Any entity subject to a civil penalty shall have a right to request an administrative hearing within _____days of receipt of the notice of the penalty. The Director or their designee shall be authorized to conduct the hearing after giving appropriate notice to the respondent. The decision of the Director shall be subject to appropriate judicial review.

11.3. Collection of Penalties. – If the respondent has exhausted their administrative appeals and the civil penalty has been upheld, they shall pay the civil penalty within _____ days after the effective date of the final decision. If the respondent fails to pay the penalty, a civil action may be brought by the Director in any court of competent jurisdiction to recover the penalty. Any civil penalty collected under this Act shall be transmitted to _____.

Section 12. Criminal Penalties

12.1. Misdemeanor. – Any entity who by themselves or by their servant or agent commits any of the acts enumerated in Section 10. Prohibited Acts or violates any other provision of this Act shall be guilty of a Class _____ misdemeanor and upon conviction shall be punished by a fine not less than $_____, nor more than $_____, or by imprisonment for not less than _____ nor more than _____, or both fine and imprisonment.

12.2. Felony. – Any entity who by themselves or their servant or agent who intentionally commits any of the acts enumerated in Section 10. Prohibited Acts or repeatedly violates any other provision of this Act shall be guilty of a Class _____ felony and upon conviction shall be punished by a fine not less than $_____ and/or by imprisonment for not less than _____, nor more than _____.

Section 13. Restraining Order and Injunction

The Director is authorized to apply to any court of competent jurisdiction for a restraining order, or a temporary or permanent injunction, restraining any person from violating any provision of this Act.

Section 14. Validity of Prosecutions

Prosecutions for violation of any provision of this Act are declared to be valid and proper notwithstanding the existence of any other valid general or specific Act of this state dealing with matters that may be the same as or similar to those covered by this Act.

Section 15. Severability Provision

If any provision of this Act is declared unconstitutional, or the applicability thereof to any person or circumstance is held invalid, the constitutionality of the remainder of the Act and the applicability thereof to other persons and circumstances shall not be affected.

Section 16. Repeal of Conflicting Laws

All laws and parts of laws contrary to or inconsistent with the provisions of this Act, and specifically _____, are repealed insofar as they might operate in the future; but as to offenses committed, liabilities incurred, and claims now existing there under, the existing law shall remain in full force and effect.

Section 17. Citation

This Act may be cited as the "Shipment Act of _____."

Section 18. Effective Date

This Act shall become effective on _____.

NIST OWM Detailed Technical Analysis:

This item should be in the Weights and Measures (WAM) series, not Other (OTH) as the task group is recommending the item become a model "Uniform Shipping Law"

NIST OWM supports the task group and looks forward to their work. NIST OWM questions how this new law will coincide with the Federal regulations and which entity will handle disputes, in essence who the regulatory authority on interstate commerce if/when States is have adopted this model law. We believe that prior to adoption this question needs to be answered. NIST OWM recommends the task group research the "Commerce Clause" to ensure no federal preemption.

The Uniform Shipping Law Task Group submitted updated language to the committee during the 2025 NCWM interim meeting for consideration. This language updates the item under consideration and will take the National Motor Freight Transportation Association (NMFTA) comments under advisement. This new language addresses the updates and concerns from the previous iteration, yet NIST OWM needs to further hear more dialogue on the concerns raised during the open hearings at the 2025 NCWM Interim meeting. These concerns are: if this is a model law, how will each state adopt a unified language as opposed to the State's legislatures modifying it to their own language? Additionally, this item is presented as a law; has the Task Group considered it to be a model regulation? Prior to this item becoming law, all federal entities that currently have a vested interest need to be heard by the committee and their comments vetted so that no federal preemption occurs.

This proposal is an excellent effort that aims to address a significant issue present within the shipping industry for quite some time. A uniform shipment law provides a model approach for granting authority to regulators to ensure equitable shipment practices; common carriers and consumers both stand to benefit from fairer and transparent transactions. The Task Group (TG) comprises members from a wide range of

interests, including regulators and industry providers. The representatives recognize the need that this proposal addresses and support the development of the Uniform Shipment Laws.

Summary of Discussions and Actions:

During the 2025 NCWM Annual meeting, Miland Kofford (UT), the Chair of the Uniform Shipping work group, stated that the National Motor Freight Transportation Association (NMFTA) joined the workgroup, and they had updated the item under consideration with some of the NIST OWM analysis suggestions. The workgroup believes the item is fully developed and will be redistributed to the regions for voting consideration. This item remains in an Assigned status.

At the 2025 NCWM Interim meeting, Jeff Cooper and Claire Shapiro from the National Motor Freight Transportation Association (NMFTA) shared points of interest. It was stated that LTL shipments are provided a shipping class whereby loads may not be marked yet; they need to be inspected and assigned, even if the shipper is not paying, and the consignee is charged. They also stipulated that Carriers have dispute resolution policies for any adjustments, and the NMFTA is looking to join the Task Group. Cheryl Ayer, New Hampshire, supports the item and points out that Bills of Lading (BOLs) are not being completed, which is a requirement; shippers are picking up inaccurate or incomplete BOLs, and the discussed dispute resolution procedures are not functional. Aaron Yanker, Colorado, asks if the Task group has taken into consideration all shipments or just LTLs. Colorado supports this item. Matthew Curran, FL, is currently neutral pending the outcome of the task group's work and recommends an "Assigned" status, but asks if the task group has included in their deliberations how any such regulations may create a gap between what the USPS does and what this regulation would require of the affected private sector companies? Also, since this is a proposed model law, which would not be adopted in several states, has this discontinuity been considered in the task group's deliberations? Further, since it is a proposed model law, it is subject to change going through a given state's legislative process for adoption, and thus, likely to be modified and therefore not the same from state to state for those who choose to adopt this model law. Additionally, there may be legal challenges with statements such as "repealing conflicting laws" as proposed in Section 16. Lastly, if the desired requirements are in federal laws, those CFRs or federal laws should be considered for adoption instead of creating new (duplicative) language.

At the 2024 NCWM Annual Meeting, Miland Kofford, UT, Chair of the Uniform Shipping Law Task Group, stated that the workgroup met on four separate occasions to discuss this item. As there is currently no movement in the status, the workgroup is moving towards developing the procedures. Miland also wanted to thank the industry and regulators for their participation.

Regional Association Reporting:

Western Weights and Measures Association

At the 2025 WWMA Annual Meeting (September 2025), The current version of this proposal was not included in the L&R committee's agenda and appears as a separate item on the WWMA website.

Mr. Miland Kofford (representing both the Utah Department of Agriculture and Food, and Chair of the Uniform Shipping Law Task Group) stated that the task group received feedback at the interim meeting, has worked to update the item over the last 6 months, and feels the item is ready for a vote.

Mr. Kurt Floren (County of Los Angeles, California) recommended further development. He stated that it is unclear where this item was intended to be placed. The stated purpose of the item is to adopt a new law, but Mr. Floren suggested that it may be better suited in the existing HB 130 Chapter III, Uniform Laws.

Mr. Aaron Yanker (Colorado Department of Agriculture, Weights and Measures), and Mr. Matt Douglas (California Division of Measurement Standards) both expressed appreciation for the work done by the task group but still recommended an assigned status.

The WWMA L&R Committee recommends a voting status with the recommendation that the task group incorporates Mr. Kurt Floren's suggestion.

At the WWMA 2024 Annual Meeting, Miland Kofford, Chair of the Uniform Shipping Law Task Group, gave the following update: The Task Group has completed a draft version of the proposed Uniform Shipping Law and is working on a detailed implementation plan.

The WWMA L&R Committee thanks the Task Group for their hard work and recommends this item remain assigned.

Southern Weights and Measures Association

At the 2025 SWMA Annual Meeting (October 2025), the Committee received no comments made during open hearing.

The Committee did not receive an update from the work group this item was assigned to. The submitter was not present. The Committee believes this item needs to be further vetted by the NCWM membership and recommends this item remain Assigned.

At the SWMA 2024 Annual Meeting, the committee heard no comments from the floor and recommends this item remain Assigned.

Northeastern Weights and Measures Association

At the 2025 NEWMA Interim Meeting (October 2025), a regulator from New Hampshire (and Uniform Shipping Law Task Group member) commented they believe the item is ready for a vote. She indicated that changes were made between the 2025 Interim and Annual, taking into consideration recommendations from industry, namely the NMFTA. She also commented that the Task Group is looking to develop a uniform regulation in the future.

After hearing comments from the floor, the committee believes this item is fully developed and recommended a Voting status; and the body concurred.

At the NEWMA 2024 Interim Meeting, Cheryl Ayer, New Hampshire, Member of the Uniform Shipping Law Task Group – Reported on the work done by the task group between the NCWM annual meeting (July 2024) and now a written report dated October 11, 2024, was provided. She believes the item is fully develop and recommends a Voting status.

Jason Flint, New Jersey – Discussed where this item would reside within the handbooks as most states cannot adopt a law but can adopt an item as part of a regulations. Cheryl Ayer offered that this item should be both a uniform law and part of a handbook that can be adopted by states as a regulation similar to fuels. Walt Remmert, Pennsylvania – How far out do you see this for complete implementation. Cheryl Ayer offered that it would likely be up to 5 years for complete implementation.

The committee recommends this as a voting item.

Central Weights and Measures Association

At the 2025 CWMA Interim Meeting (September 2025), the Committee recommends this item to be informational as it is developed. No input from industry has been received outside of the task group.

At the CWMA 2024 Interim Meeting, Daniel Walker, OH, recommends this item to stay Assigned.

The committee recommends this item to stay assigned.

OTH-07.1 D Fuels and Lubricants Subcommittee

Source: NCWM Fuels and Lubricants Subcommittee (FALS)

Submitter's Purpose and Justification:

Provide an update of the activities of this Subcommittee which works on direction from and reports to the L&R Committee. The mission of FALS is to assist the L&R Committee in the development of agenda items that affect Handbook 130, Uniform Fuels and Automotive Lubricants Inspection Law and Uniform Fuels and Automotive Lubricants Regulation. The Subcommittee consists of regulators and associate members who have subject matter expertise in fuels and lubricants. The Subcommittee will be called upon to aid in the development, provide guidance, and help establish NCWM position on items concerning fuels and lubricants.

NIST OWM Executive Summary

OTH-07.1 D Fuels and Lubricants Subcommittee
NIST OWM Recommendation: Developing • NIST OWM supports the Fuels and Lubricants subcommittee and looks forward to working with them on all developing items.

Table 2. Summary of Recommendations
OTH-07.1 D Fuels and Lubricants Subcommittee

	Status Recommendation	Note*	Comments
Submitter			
OWM	Developing		
WWMA	Developing		
NEWMA	Developing		
SWMA	Developing		
CWMA	Developing		
NCWM	Developing		

	Number of Support Letters	Number of Opposition Letters	Comments
Industry			
Manufacturers			
Retailers and Consumers			
Trade Association			

***Notes Key:**

1. Submitted modified language
2. Item not discussed
3. No meeting held
4. Not submitted on agenda
5. No recommendation or not considered

Item Under Consideration:

Amend NIST Handbook 130 Uniform Fuels and Automotive Lubricants Regulation as follows:

NIST OWM Detailed Technical Analysis:

NIST OWM supports the Fuels and Lubricants subcommittee and looks forward to working with them on all developing items.

Summary of Discussions and Actions:

Regional Association Reporting:

Western Weights and Measures Association

At the 2025 WWMA Annual Meeting (September 2025), Mr. Randy Jennings (Vice Chair of FALS) stated that there is no new business to report and that an update will be provided in January.

The WWMA L&R Committee thanks the Fuels and Lubricants Subcommittee for its work and recommends this item remain developing.

Southern Weights and Measures Association

Mr. Randy Jennings, FALS Vice Chair — commented that other than the information presented for FLR-26.1, the group does not have any additional information to report at this time. In addition to the Virtual Meeting that we will hold prior to the Interim, FALS will meet in-person at the NCWM Interim meeting and an update will be provided to the NCWM L&R Committee during the open hearings.

The Committee recommends this item remain Developing.

Northeastern Weights and Measures Association

At the 2025 NEWMA Interim Meeting, no comments were heard on this item. As this is a standing subcommittee report, the committee recommended a Developing status, and the body concurred.

Central Weights and Measures Association

No comments. The CWM L&R Committee recommends a developing status for this item.

OTH-11.1 D Packaging and Labeling Subcommittee

Source: NCWM Packaging and Labeling Subcommittee (PALS)

Submitter's Purpose and Justification:

Provide an update of the activities of this Subcommittee which reports to the L&R Committee. The mission of PALS is to assist the L&R Committee in the development of agenda item, NCWM positions and new standards related to packaging and labeling. The Subcommittee will also be called upon to provide important and much needed guidance to the regulatory and consumer packaging communities on difficult questions.

PALS will report to NCWM L&R Committee. The Subcommittee is comprised of a Chair, eight voting members, and anyone interested in packaging and labeling standards.

Original Justification:

This item is to provide a report on the activities of the Packaging and Labeling Subcommittee which reports and provides recommendations to the Laws and Regulations Committee.

For more information or to provide comments, please contact the PALS Chair:

Mr. Chris Guay
CGGT
513-652-6597, guay.cb@gmail.com.

NIST OWM Executive Summary

OTH-11.1 D Packaging and Labeling Subcommittee
NIST OWM Recommendation: Developing • NIST OWM supports the Packaging and Labeling subcommittee and looks forward to working with them on all developing items.

Tale 2. Summary of Recommendations

OTH-11.1 D Packaging and Labeling Subcommittee

	Status Recommendation	Note*	Comments
Submitter			
OWM			
WWMA	Developing		
NEWMA	Developing		
SWMA	Developing		
CWMA	Developing		
NCWM	Developing		

	Number of Support Letters	Number of Opposition Letters	Comments
Industry			
Manufacturers			
Retailers and Consumers			
Trade Association			

***Notes Key:**

1. Submitted modified language
2. Item not discussed
3. No meeting held
4. Not submitted on agenda
5. No recommendation or not considered

Item Under Consideration:

Amend NIST Handbook:

NIST OWM Detailed Technical Analysis:

Section.

Summary of Discussions and Actions:

This item.

Regional Association Reporting:

Western Weights and Measures Association

At the WWMA 2025 Annual Meeting (September 2025), the L&R Committee heard no update from PALS.

The WWMA L&R Committee thanks the Packaging and Labeling Subcommittee for its work and recommends this item remain developing.

Southern Weights and Measures Association

At the SWMA 2025 Annual Meeting, no comments were received during open hearing on this item.

The Committee recommends this item remain Developing

Northeastern Weights and Measures Association

At the NEWMA 2025 Interim Meeting, no comments were heard on this item. As this is a standing subcommittee report, the committee recommended a Developing status, and the body concurred.

Central Weights and Measures Association

At the CWMA 20245Interim Meeting, no comments. The CWMA L&R Committee recommends a Developing status for this item.

NET – HANDBOOK 133

NET-26.1 – Section 2.3.8.1 Table 2-3. Moisture Allowances

Source: New Jersey Food Council

Submitter's Purpose and Justification:

The New Jersey Food Council, through its counsel, respectfully submit this proposal to amend the National Institute of Standards and Technology ("NIST") Handbook 133 at Chapter 2, Section 2.3.8.1. It is being requested that this section be amended to provide a moisture allowance for produce at 6 percent, which reflects the high water volume of fruits and vegetables and the corresponding moisture loss upon harvesting. This proposal is made in conjunction with a separately submitted proposal to amend Handbook 130.

Original Justification:

The revisions to Handbook 133 being presented for consideration reflect modern supply chains and sales practices as it concerns fresh produce. While several products such as meat, poultry, flour, pasta and even cannabis are provided a "moisture allowance," produce is not. Yet fruits and vegetables are generally more than 80 percent water. Moisture loss is a scientifically recognized, inevitable process during storage and distribution of produce due to its perishable and hydrophilic nature. Failing to account for this natural variability imposes an unfair compliance burden on industry and does not reflect the true intent of fair packaging and labeling practices.

The submitter acknowledges that some may argue that the moisture loss requested is too high as compared to other products.

The submitter requested Voting status in 2026.

NIST OWM Executive Summary

NET-26.1 – Section 2.3.8.1 Table 2-3. Moisture Allowances
NIST OWM Recommendation: Status • NIST OWM recommends this item be Withdrawn as moisture loss needs to be supported by industry wide data.

Table 2. Summary of Recommendations

NET-26.1 – Section 2.3.8.1 Table 2-3. Moisture Allowances

	Status Recommendation	Note*	Comments
Submitter			
OWM	Withdrawal		
WWMA	Assigned		
NEWMA	Withdrawal		
SWMA	Withdrawal		
CWMA	Withdrawal		
NCWM			

	Number of Support Letters	Number of Opposition Letters	Comments
Industry			
Manufacturers			
Retailers and Consumers			
Trade Association			

***Notes Key:**

1. Submitted modified language
2. Item not discussed
3. No meeting held
4. Not submitted on agenda
5. No recommendation or not considered

Item Under Consideration:

Amend NIST Handbook 133 Uniform Fuels and Automotive Lubricants Regulation as follows:

Table 2-3. Moisture Allowances		
Verifying the labeled net weight of packages of:	**Moisture Allowance is:**	**Notes**
Flour	3 %	
Dry pet food	3 %	Dry pet food means all extruded dog and cat foods and baked treats packaged in Kraft paper bags and/or cardboard boxes with a moisture content of 13 % or less at time of pack.
Pasta products	3 %	Pasta products means all macaroni, noodle, and like products packaged in kraft paper bags, paperboard cartons, and/or flexible plastic bags with a moisture content of 13 % or less at the time of pack.
Borax	see Section 2.4. Borax	
Cannabis	3 %	*Cannabis* means plant material only, and not products containing *Cannabis*, whether containing more than 0.3 % Total Delta-9 THC (also known as cannabis, Marijuana, or Marihuana) or containing 0.3 % or less Total Delta-9 THC (also known as Hemp).
Fruits	**6 %**	**Fruits mean the mature or ripened reproductive structures (ovary of a flower) formed by plants that enclose seeds and help with their dispersal. Fruits shall include: a) "small fruits" which includes, but is not limited to, cherries, currants, and cherry tomatoes; and b) "berries," which includes all fruit whose names end in the term "berry", except when offered for sale and sold by the box, basket or other standard dry-measure receptacle.**
Vegetables	**6 %**	**Vegetables means any part of a plant including: (a) edible underground parts, such as roots, tubers, and bulbs; (b) edible above ground parts, such as stems, leaves, and flowers; and (c) edible fruits and seeds, such as usually unripe fruits and seeds.**

NIST OWM Detailed Technical Analysis:

NIST OWM recommends this item be Withdrawn from the agenda as they see no merit for this item. The submitter has not identified or provided laboratory or "real world" data, or an industry wide moisture study to the NCWM as per NIST Handbook 130 Section VI. NCWM Policy, Interpretations and Guidelines. Section 2.5.6. Guidelines for NCWM Resolution of Request for Recognition of Moisture Loss in Other Packaged Products. Additionally, the categories are too broad, and moisture is already considered when inspecting packaged commodities.

The NCWM has formed a moisture task group to address how and when moisture should be applied to products in the hopes of addressing Table 2.3 and reasonable variations caused by unavoidable deviations in weighing.

Summary of Discussions and Actions:

This item.is new for the 2026 NCWM cycle.

Regional Association Reporting:

Western Weights and Measures Association

At the 2025 WWMA Annual Meeting (September 2025), Mr. Austin Shepherd (County of San Diego, California) spoke to discussions which occurred at the NCWM Annual Meeting regarding moisture loss and that the percentages in the table were based upon supporting data which was provided by industry. Because the submitter provided no data for this proposal, he recommended a developing status or that the item be withdrawn.

Mr. Jose Arriaga (County of Orange, California) stated that the descriptions in the proposal are broad and agreed with Mr. Shepherd. He clarified that using the botanical descriptions might not be appropriate and suggested that the submitter works with USDA to classify products.

Ms. Wendy Hahn (County of Stanislaus, California) stated that fruits and vegetables are much more perishable than other products and that the range in moisture loss for given fruits or vegetables may be broad.

Mr. Aaron Yanker (Colorado Department of Agriculture, Weights and Measures) stated that he did not recognize the intent or see the merit in the item and recommended that the item be withdrawn. He also recognized that there is a Moisture Allowance Task Group addressing moisture loss for all items.

Mr. Matt Douglas (California Division of Measurement Standards) recognized that there are already items on the agenda and a work group assessing the applicability of moisture loss. He recommended that this item be withdrawn pending the results of the workgroup. He stated that if the item stays on the agenda the submitter should work with NIST and/or the workgroup to identify how to develop the item including providing data, or that the item should be assigned to the moisture allowance task group to evaluate whether the item is necessary, and whether the proposed percentages and descriptions are appropriate.

Mr. Kurt Floren (County of Los Angeles, California) spoke to concerns about the item as presented including the percentage of moisture loss identified, the lack of data, and the broadness of the categories to which this moisture loss would apply. However, he expressed support for the idea in principle and encouraged the council to engage with industry, noting that it was unusual for industry to reach out and ask for this. He suggested the creation of a task group to work with industry to seek additional data and develop these moisture loss “allowances”.

The WWMA L&R Committee recommends that this item be assigned to a new task group.

Southern Weights and Measures Association

Mr. Tory Brewer with the State of West Virgina questions where the proposer gets the 6% value from. There is no supporting data for this value and recommends a Withdraw status.

The Committee heard comments from Dr. Matthew Curran, Florida – He recommend not forwarding this to the NCWM as we do not believe it has merit. Fruits and vegetables have a wide range of moisture contents, some moist and some dry, so a blanket 6% allowance sets the table for inequitable sales and fraud in the worst. Further, no scientific data has been presented to justify any specific moisture allowance.

Several other state representatives echoed the state of West Virgina and Florida and recommended a Withdraw status.

Based on the comments received from the floor the Committee recommends a Withdraw status.

Northeastern Weights and Measures Association

A representative from Gibbons, P.C., on behalf of the New Jersey Food Council (NJFC), gave a presentation regarding the letter they submitted as a supporting document that appears on the NEWMA website. They commented that sales practices for produce have changed over the years and most produce products are shipped in from other state or countries. He also commented that produce has high moisture content and gave the following examples: romaine lettuce 95%, blueberries and strawberries 90%, and blueberries have up to 14% moisture loss. The request for 6% is because of the nature of the products being so complex and full of water, they felt that doubling the 3% consideration for other listed products was appropriate. A regulator from New York commented that in the justification of the item, "fresh produce" is mentioned, however, in the table "fresh" does not appear, meaning this would apply to all produce; canned, dried, cooked, etc. The regulator also commented that moisture loss is not a require allowance, but a consideration. He also indicated that if this item moves forward, it could be group within Block 4. A regulator from Westchester County, NY commented that he has concerns that this item, as written, would also apply to cut produce that is prepared instore or elsewhere. The representative on behalf of the NJFC indicated that this item was intended for fresh whole produce only. A regulator from Connecticut commented that misters could be used to solve the moisture issue at retail, and the representative on behalf of the NJFC indicated that misters present slip and fall liability so they have largely been discontinued. A regulator from New Jersey commented that the taxonomic definitions of vegetables and fruits left out fungi, such as mushrooms, which is a form of produce. He also commented that the submitter has not provided any data regarding moisture loss for any specific product and a blanket 6% is not appropriate. He also commented that while the Supreme Court ruled that we must consider variation in product weight, those considerations are already in place with Maximum Allowable Variations. To consider additional variations, data would need to be provided on a case-by-case basis. New Jersey recommended this item be withdrawn. A regulator from Vermont commented that he has performed a lot of package weighing over the years and 6% without a study is arbitrary and recommends a withdrawn status. The representative on behalf of the NJFC pointed to the studies that were referenced in the supporting document letter. A regulator from Westchester County, NY commented that if a comparison was to be made from produce to a commodity in the Table, it would be cannabis. The representative on behalf of the NJFC indicated that cannabis is still a federally illegal substance and should not be compared to produce. A regulator from New York echoed the comments made by New Jersey and Vermont and recommended a withdrawn status.

After hearing comments from the floor and reviewing the supporting documents, the committee recommended a Withdrawn status, and the body concurred.

Central Weights and Measures Association

Several regulators and a retired individual were opposed to this item and recommended withdrawal. A NIST representative had no official position but would likely not support the item. No data was included to support this item.

The CWMA L&R Committee Recommends a withdrawn status for this item.

ITEM BLOCK 1 (B1) – FRESH FRUITS AND VEGETABLES

Source: New Jersey Food Council

Submitter's Purpose and Justification:

We respectfully submit this proposal to amend the National Institute of Standards and Technology ("NIST") Handbook 130 at Article IV, Chapter B, Section 1.12.1 and at Article VI, Section 2.3.2. These amendments would permit pre-packaged produce to be sold by count in an individual package, so long as there is no disadvantage to the consumer.

Original Justification:

The revisions to Handbook 130 are being presented for consideration in order to reflect modern supply chains and sales practices as it concerns fresh produce. Retailers commonly sell produce items such as avocados, onions, citrus and potatoes in translucent packaging. While some packages are designed to be sold by net weight (i.e. five pounds of potatoes with a varying number of potatoes per package), other packages contain the same number of items in each package because they are intended to be treated as single consumer units for pricing, labeling, and handling purposes. . Translucent packaging offers full visibility to the consumer and has become a widespread industry standard for bundled produce. Treating translucent packages as single retail units avoids unnecessary burdens on retailers, prevents over-handling of perishable items, and promotes efficiency at point-of-sale. This approach matches longstanding consumer expectations.

The submitter acknowledged that there may be concerns about consumer confusion regarding products being sold by count and not by weight.

The submitter requested Voting status in 2026.

B1: MOS-26.1 – 1.12. Ready-to-Eat Food

NIST OWM Executive Summary

B1: MOS-26.1 – 1.12. Ready-to-Eat Food

NIST OWM Recommendation: Withdrawal

- This agenda item moved through all four of the Regions and did not receive a staus other than "Withdawn" As per NCWM Membershipship Handbook (Appendix G Policy 3.3.2 Procedures to Modify Handbooks) more specifically Section C, 3. And D, 1.this item should not appear on the L&R NCWM agenda.
- Additionally, within the *NOTE* section of 1.12.1 Definition it is proposed that "**More than one of the same fruit or vegetable can be sold together by count in a single package so long as packaging containing the fruits and vegetables is translucent so that the consumer can visually inspect the product sold.** This directly contradicts the NIST Handbook 130 Package and Labeling Section whereby the Identity, Responsibility and the Quantity are required to be on the package. Furthermore, for the quantity to be fully informative it would need to meet Table 6.4 on the required terms and any net content statement that does not permit price and quantity comparisons is forbidden. The declaration of quantity of this particular commodity shall be expressed in the terms of weight or mass.

Table 2. Summary of Recommendations
B1: MOS-26.1 – 1.12. Ready-to-Eat Food

	Status Recommendation	Note*	Comments
Submitter			
OWM	Withdrawal		
WWMA	Withdrawal		
NEWMA	Withdrawal		
SWMA	Withdrawal		
CWMA	Withdrawal		
NCWM			

	Number of Support Letters	Number of Opposition Letters	Comments
Industry			
Manufacturers			
Retailers and Consumers			
Trade Association			

***Notes Key:**
1. Submitted modified language
2. Item not discussed
3. No meeting held
4. Not submitted on agenda
5. No recommendation or not considered

Item Under Consideration:

Amend NIST Handbook 130 Uniform Regulation for the Method of Sale of Commodities as follows:

1.12. Ready-to-Eat Food.

1.12.1. Definition. – Restaurant style food offered or exposed for sale, whether in restaurants, supermarkets, or similar food service establishments that is ready for immediate human consumption, though not necessarily on the premises where sold, and which does not require any cooking or heating preparation by the customer. Ready-to-eat food does not include sliced luncheon products, such as meat, poultry, or cheese when sold separately.

Some examples of ready-to-eat food items: (This list is not intended to be all inclusive.)

- servings of pasta, potato, or coleslaw;
- servings of salads, vegetables, or grains such as rice;
- pizzas, whole or sliced;
- meat/vegetable pockets/pies;
- tacos, fajitas, enchiladas, tostadas;

- cooked, whole chickens or turkeys;
- buckets, tubs, or individual pieces of cooked chicken or fish;
- cooked ribs by the slab or piece;
- stuffed clams, oysters, shrimp, and fish;
- cooked shrimp or crab cakes;
- slices of cake, pie, or quiche;
- donuts, bagels, or rolls for individual sale;
- cookies or brownies for individual sale;
- sandwiches, eggs, or spring rolls;
- servings of prepared chili or soup;
- stuffed peppers, tomatoes, and cabbage;
- knishes; and
- pickles.

NOTE: The sale of an individual piece of fresh fruit (like an apple, banana, or orange) **or vegetable (like a squash, tomato or cucumber)** is allowed by count. **More than one of the same fruit or vegetable can be sold together by count in a single package so long as packaging containing the fruits and vegetables is translucent so that the consumer can visually inspect the product sold.**
(Added 2004) (Amended 2017 **and 20XX**)

NIST OWM Detailed Technical Analysis:

This agenda item moved through all four of the Regions and did not receive a status other than "Withdawn" As per NCWM Membership Handbook (Appendix G Policy 3.3.2 Procedures to Modify Handbooks) more specifically Section C, 3. And D, 1. This item should not appear on the L&R NCWM agenda.

Additionally, within the *NOTE* section of 1.12.1 Definition it is proposed that "**More than one of the same fruit or vegetable can be sold together by count in a single package so long as packaging containing the fruits and vegetables is translucent so that the consumer can visually inspect the product sold."**

This directly contradicts the NIST Handbook 130 Package and Labeling Section whereby the Identity, Responsibility and the Quantity are required to be on the package. Furthermore, for the quantity to be fully informative it would need to meet Table 6.4 on the required terms and any net content statement that does not permit price and quantity comparisons is forbidden. The declaration of quantity of this particular commodity shall be expressed in the terms of weight or mass.

Summary of Discussions and Actions:

This item is new for the 2026 NCWM cycle.

Regional Association Reporting:

Western Weights and Measures Association

The WWMA L&R Committee heard comments on this item as part of Block 1 rather than as an individual item, so these comments apply to the whole block.

Mr. Matt Douglas (California Division of Measurement Standards) expressed opposition noting that this might be sufficiently addressed in UPLR 11.27. This language may also undermine the consumer's ability to effectively cost-compare items if some are sold by weight and some are sold by count, for example.

Mr. Kurt Floren (County of Los Angeles, California) expressed opposition to this item and stated that the purpose of a method of sale is to allow consumers to cost-compare. He also pointed to the first sentence in 11.27 regarding "When a packaged consumer commodity is properly measured in terms of count only, or in terms of count and some other appropriate unit…" in response to Mr. Douglas' comment.

Mr. Aaron Yanker (Colorado Department of Agriculture, Weights and Measures) agreed with Mr. Douglas and Mr. Floren and recommended that the item be withdrawn.

The WWMA L&R Committee recommends that this item be withdrawn.

Southern Weights and Measures Association

The Committee heard from Dr. Matthew Curran, Florida – He recommend not forwarding this to the NCWM as he does not believe it has merit. Currently, individual fruits (bananas, apples, etc.) may be sold by the each, but to expand this to vegetables and multiples of each erodes value comparison for consumers.

Several other state representatives echoed Florida's comment and recommended a Withdraw status.

Comments apply to all items in Block 1.

Based on the comments received from the floor the Committee recommends a Withdraw status. This recommendation applies to all items in Block 1.

Northeastern Weights and Measures Association

Comments were heard together on all items in Block 1. If a comment was pertaining to a specific item within the Block, it will be noted.

A representative from Gibbons, P.C., on behalf of the New Jersey Food Council (NJFC), gave a presentation regarding the letter they submitted as a supporting document that appears on the NEWMA website. He described several instances in New Jersey where clear packages that contained multiples of the same produce, and had a net quantity statement of count, were being removed from sale because the packages did not have a net weight statement. Two examples that were given were a bag with 7 limes, and a clear wrapped tray with 3 eggplants. A regulator from Connecticut commented that method of sale goes back to what is customary and usual. He gave the example of pickles, which although solid can be sold by liquid volume. A regulator from Vermont commented that this item is not needed because method of sale already allows count, as long as it is labeled as such. A regulator from New York commented that they have no issue with certain fruits or vegetables by count, but pointed out that the variation in sizes could be misleading. He also commented that the submitter may not realize that the Table referenced in POL-26.1 is only a guideline. A regulator from New Jersey commented that, regarding MOS-26.1, the handbook already allows single fresh fruits to be sold by count and does not see an issue with vegetable being included. He pointed out that this section of the handbook pertains to "ready to eat foods" and is specific to "restaurant style foods", which whole fresh produce is not. Regarding POL-26.1, a regulator from New Jersey commented that the item is a change to a guideline that no state adopts. He pointed out that the guideline specifically states that non-compatible methods of sale for the same produce item in the same retail location should be minimized, and this proposal would passively allow that. New Jersey also commented that the chart that appears in POL-26.1 is not binding. The only permissible methods of sale for produce are found in the Uniform Regulation for Methods of Sale. New Jersey recommended a withdrawn status. A regulator

from New York commented that the submitter may not realize that HB130 is a guideline that is only adopted by individual states, while other states may follow it in practice with their own regulations. New York regulations would not allow packages of products to be sold as multi-count without a net weight statement. Additionally, the New York regulation definition pertaining to Ready to Eat foods would not allow for packages of produce to be sold as Ready to Eat items.

After hearing comments from the floor and reviewing the supporting documents, the committee recommended a Withdrawn status, and the body concurred.

Central Weights and Measures Association

Many regulators and one retired individual recommended withdrawal of this item. Comments were made that no equity was in the comparison of items being sold.

The CWMA L&R Committee recommends a withdrawn status for this item.

B1: POL-26.1 – 2.3.2. Fresh Fruits and Vegetables

Original Justification:

See Justification in Block 1.

NIST OWM Executive Summary

B1: POL-26.1 – 2.3.2. Fresh Fruits and Vegetables

NIST OWM Recommendation: Withdrawal

- This agenda item moved through all four of the Regions and did not receive a staus other than "Withdawn" As per NCWM Membershipship Handbook (Appendix G Policy 3.3.2 Procedures to Modify Handbooks) more specifically Section C, 3. And D, 1.this item should not appear on the L&R NCWM agenda.

- Produce can not be sold in pakage form without meeting the three requirements of the Pakaging and Labeling Regulations in NIST Handbook 130 (Identity, Responsibility and Net Quantity).

- Under POL - 26.1 2.3.2. Fresh Fruits and Vegtables the proposed language "**Under this section, if a produce item is allowed to be sold by count, and more than one of the same commodity is enclosed in a translucent package, including but not limited to clear polyethylene bags, containers, or wraps, the commodity may be sold by the total count"** would not meet the requirements in the Package and Labeling section of Handbook 130**.** This directly contradicts the NIST Handbook 130 Package and Labeling Section whereby the Identity, Responsibility and the Quantity are required to be on the package. Furthermore, for the quantity to be fully informative it would need to meet Table 6.4 on the required terms and any net content statement that does not permit price and quantity comparisons is forbidden. The declaration of quantity of this particular commodity shall be expressed in the terms of weight or mass.

Table 2. Summary of Recommendations
B1: POL-26.1 – 2.3.2. Fresh Fruits and Vegetables

	Status Recommendation	Note*	Comments
Submitter			
OWM	Withdrawal		
WWMA	Withdrawal		
NEWMA	Withdrawal		
SWMA	Withdrawal		
CWMA	Withdrawal		
NCWM			

	Number of Support Letters	Number of Opposition Letters	Comments
Industry			
Manufacturers			
Retailers and Consumers			
Trade Association			

***Notes Key:**
1. Submitted modified language
2. Item not discussed
3. No meeting held
4. Not submitted on agenda
5. No recommendation or not considered

Item Under Consideration:

Amend NIST Handbook 130 NCWM Policy, Interpretations, and Guidelines as follows:

2.3.2. Fresh Fruits and Vegetables.
(L&R, 1979, p. 176; 1980; 1982, p. 152; 2008)

Guideline

Recognizing the difficulty faced by consumers when more than one method of sale is employed in the same outlet for the same product, non-comparable methods of sale (e.g., weight and measure) for the same produce item in the same outlet should be minimized.

This guideline applies to all sales of fruits and vegetables. There are two tables, one for specific commodities and one for general commodity groups. Search the specific list first to find those commodities that either do not fit into any of the general groups or have unique methods of sale. If the item is not listed, find the general group in the second table. The item may be sold by any method of sale marked with an X.
(Amended 2008 **and 20XX**)

Under this section, if a produce item is allowed to be sold by count, and more than one of the same commodity is enclosed in a translucent package, including but not limited to clear polyethylene bags, containers, or wraps, the commodity may be sold by the total count.

NIST OWM Detailed Technical Analysis:

This agenda item moved through all four of the Regions and did not receive a staus other than "Withdawn" As per NCWM Membershipship Handbook (Appendix G Policy 3.3.2 Procedures to Modify Handbooks) more specifically Section C, 3. And D, 1.this item should not appear on the L&R NCWM agenda.

Produce can not be sold in pakage form without meeting the three requirements of the Pakaging and Labeling Regulations in NIST Handbook 130 (Identity, Responsibility and Net Quantity)

Under POL - 26.1 2.3.2. Fresh Fruits and Vegtables the proposed language "**Under this section, if a produce item is allowed to be sold by count, and more than one of the same commodity is enclosed in a translucent package, including but not limited to clear polyethylene bags, containers, or wraps, the commodity may be sold by the total count"** would not meet the requirements in the Package and Labeling section of Handbook 130**.** This directly contradicts the NIST Handbook 130 Package and Labeling Section whereby the Identity, Responsibility and the Quantity are required to be on the package. Furthermore, for the quantity to be fully informative it would need to meet Table 6.4 on the required terms and any net content statement that does not permit price and quantity comparisons is forbidden. The declaration of quantity of this particular commodity shall be expressed in the terms of weight or mass.

Summary of Discussions and Actions:

This item is new for the 2026 NCWM cycle.

Regional Association Reporting:

Western Weights and Measures Association

The WWMA L&R Committee heard comments on this item as part of Block 1 rather than as an individual item, so these comments apply to the whole block.

Mr. Matt Douglas (California Division of Measurement Standards) expressed opposition noting that this might be sufficiently addressed in UPLR 11.27. This language may also undermine the consumer's ability to effectively cost-compare items if some are sold by weight and some are sold by count, for example.

Mr. Kurt Floren (County of Los Angeles, California) expressed opposition to this item and stated that the purpose of a method of sale is to allow consumers to cost-compare. He also pointed to the first sentence in 11.27 regarding "When a packaged consumer commodity is properly measured in terms of count only, or in terms of count and some other appropriate unit…" in response to Mr. Douglas' comment.

Mr. Aaron Yanker (Colorado Department of Agriculture, Weights and Measures) agreed with Mr. Douglas and Mr. Floren and recommended that the item be withdrawn.

The WWMA L&R Committee recommends that this item be withdrawn.

Southern Weights and Measures Association

The Committee heard from Dr. Matthew Curran, Florida – He recommend not forwarding this to the NCWM as he does not believe it has merit. Currently, individual fruits (bananas, apples, etc.) may be sold by the each, but to expand this to vegetables and multiples of each erodes value comparison for consumers.

Several other state representatives echoed Florida's comment and recommended a Withdraw status.

Comments apply to all items in Block 1. Based on the comments received from the floor the Committee recommends a Withdraw status. This recommendation applies to all items in Block 1.

Northeastern Weights and Measures Association

Comments were heard together on all items in Block 1. If a comment was pertaining to a specific item within the Block, it will be noted.

A representative from Gibbons, P.C., on behalf of the New Jersey Food Council (NJFC), gave a presentation regarding the letter they submitted as a supporting document that appears on the NEWMA website. He described several instances in New Jersey where clear packages that contained multiples of the same produce, and had a net quantity statement of count, were being removed from sale because the packages did not have a net weight statement. Two examples that were given were a bag with 7 limes, and a clear wrapped tray with 3 eggplants. A regulator from Connecticut commented that method of sale goes back to what is customary and usual. He gave the example of pickles, which although solid can be sold by liquid volume. A regulator from Vermont commented that this item is not needed because method of sale already allows count, as long as it is labeled as such. A regulator from New York commented that they have no issue with certain fruits or vegetables by count, but pointed out that the variation in sizes could be misleading. He also commented that the submitter may not realize that the Table referenced in POL-26.1 is only a guideline. A regulator from New Jersey commented that, regarding MOS-26.1, the handbook already allows single fresh fruits to be sold by count and does not see an issue with vegetable being included. He pointed out that this section of the handbook pertains to "ready to eat foods" and is specific to "restaurant style foods", which whole fresh produce is not. Regarding POL-26.1, a regulator from New Jersey commented that the item is a change to a guideline that no state adopts. He pointed out that the guideline specifically states that non-compatible methods of sale for the same produce item in the same retail location should be minimized, and this proposal would passively allow that. New Jersey also commented that the chart that appears in POL-26.1 is not binding. The only permissible methods of sale for produce are found in the Uniform Regulation for Methods of Sale. New Jersey recommended a withdrawn status. A regulator from New York commented that the submitter may not realize that HB130 is a guideline that is only adopted by individual states, while other states may follow it in practice with their own regulations. New York regulations would not allow packages of products to be sold as multi-count without a net weight statement. Additionally, the New York regulation definition pertaining to Ready to Eat foods would not allow for packages of produce to be sold as Ready to Eat items.

After hearing comments from the floor and reviewing the supporting documents, the committee recommended a Withdrawn status, and the body concurred.

Central Weights and Measures Association

Many regulators and one retired individual recommended withdrawal of this item. Comments were made that no equity was in the comparison of items being sold.

The CWMA L&R Committee recommends a withdrawn status for this item.

ITEM BLOCK 4 (B4) – MOISTURE ALLOWANCE CONSIDERATION

B4: POL-25.1 A 2.6.12. Point-of-Pack Inspection Guidelines

Source: Michigan Department of Agriculture & Rural Development

Submitter's Purpose and Justification:

Change the language for the moisture gray area from "moisture allowance" to "moisture consideration."

Original Justification:

This is a companion item to those changes requested for HB133. In speaking with both weights and measures officials and industry, quite often both interpret the language "moisture allowance" to mean "tolerance" which should automatically be given to inspection results when a lot is found short. Changing the wording to "moisture consideration" should be more clear that "Further information is required to determine lot compliance or noncompliance", as stated in the glossary.

Some industries may believe "moisture allowance" should be used as a tolerance and have always used it as same. There may also be enforcement jurisdictions that want to continue to use it as a tolerance rather than conducting additional investigations into the root cause of shortages found in those packages that allow moisture consideration.

NIST OWM Executive Summary

B4: POL-25.1 A 2.6.12. Point-of-Pack Inspection Guidelines
NIST OWM Recommendation: Assigned • NIST OWM supports the task group and looks forward to their work.

Table 2. Summary of Recommendations
B4: POL-25.1 A 2.6.12. Point-of-Pack Inspection Guidelines

	Status Recommendation	Note*	Comments
Submitter	Voting		
OWM	Assigned		
WWMA	Assigned		
NEWMA	Assigned		
SWMA	Assigned		
CWMA	Assigned		
NCWM			

	Number of Support Letters	Number of Opposition Letters	Comments
Industry			
Manufacturers			
Retailers and Consumers			
Trade Association			

***Notes Key:**

1. Submitted modified language
2. Item not discussed
3. No meeting held
4. Not submitted on agenda
5. No recommendation or not considered

Item Under Consideration:

Amend NIST Handbook 130 NCWM Policy, Interpretations, and Guidelines as follows:

2.6.12. Point-of-Pack Inspection Guidelines.

A. Weights and Measures Officials' Responsibilities.

...

vi. Apply moisture allowance~~s~~ **considerations**, if applicable.

NIST OWM Detailed Technical Analysis:

Section.

Summary of Discussions and Actions:

This item.

Regional Association Reporting:

Western Weights and Measures Association

The WWMA L&R Committee heard comments on this item as part of Block 4 rather than as an individual item, so these comments apply to the whole block.

Mr. Kurt Floren (County of Los Angeles, California) stated that he was a member of the Moisture Allowance Task Group. This proposal is being considered because federal laws require regulators to consider moisture loss when applying tolerances. Variations in net weight occur due to fluctuations in moisture even with good distribution practices. The language the task group will be developing will be based upon the language in Federal law which speaks to "reasonable variation".

Mr. Aaron Yanker (Colorado Department of Agriculture, Weights and Measures), Mr. Austin Shepherd (County of San Diego, California), and Mr. Matt Douglas (California Division of Measurement Standards) expressed support for the task group and the comments made by Mr. Floren.

The WWMA L&R Committee recommends this item remain assigned.

Southern Weights and Measures Association

Mr. Tory Brewer, moisture allowance task group chair, commented that the moisture allowance task group has met only once and has decided to rewrite the entire moisture allowance section. The group will meet again in November and plans on having a tentative draft that will be presented in January at the NCWM 2026 interim.

The Committee recommends this item remain Assigned. This applies to all items in Block 4.

Northeastern Weights and Measures Association

Comments were heard together on all items in Block 4. All comments heard apply to each item in Block 4.

A regulator from New York (and member of the Moisture Task Group) gave an update. He commented that the task group met on October 7, 2025 and will be meeting monthly. They are looking to align the language with federal language. A regulator from New Jersey commented they are looking forward to the work of the task group and recommended an Assigned status.

After hearing comments from the floor, the committee recommended an Assigned status, and the body concurred.

Central Weights and Measures Association

One regulator recommended withdrawal while another regulator recommend assigned status. Concerns were raised regarding the definitions of "Allowances Considerations".

The CWMA L&R Committee recommends this item remains assigned.

B4: NET-25.1 A 1.2.6.1. Applying a Moisture Allowance Consideration, 2.3.8. Moisture Allowances Considerations, 4.10.2.2. Moisture Shrinkage Allowance Consideration for Structural Plywood and Wood-based Structural Panels, 4.11.2.1. Shrinking Allowance Consideration

Source: Michigan Department of Agriculture & Rural Development

Submitter's Purpose and Justification:

Change the language for the moisture gray area from "moisture allowance" to "moisture consideration."

Original Justification:

This is a companion item to those changes requested for HB130.

In speaking with both weights and measures officials and industry, quite often both interpret the language "moisture allowance" to mean "tolerance" which should automatically be given to inspection results when a lot is found short. Changing the wording to "moisture consideration" should be more clear that "Further information is required to determine lot compliance or noncompliance", as stated in the glossary.

NIST OWM Executive Summary

B4: NET-25.1 A 1.2.6.1. Applying a Moisture Allowance Consideration, 2.3.8. Moisture Allowances Considerations, 4.10.2.2. Moisture Shrinkage Allowance Consideration for Structural Plywood and Wood-based Structural Panels, 4.11.2.1. Shrinking Allowance Consideration

NIST OWM Recommendation: Assigned

- Need to remove the following from the title**: 4.10.2.2. Moisture Shrinkage Allowance Consideration for Structural Plywood and Wood-based Structural Panels, 4.11.2.1. Shrinking Allowance Consideration**

Table 2. Summary of Recommendations

B4: NET-25.1 A 1.2.6.1. Applying a Moisture Allowance Consideration, 2.3.8. Moisture Allowances Considerations, 4.10.2.2. Moisture Shrinkage Allowance Consideration for Structural Plywood and Wood-based Structural Panels, 4.11.2.1. Shrinking Allowance Consideration

	Status Recommendation	Note*	Comments
Submitter	Assigned		
OWM	Assigned		
WWMA	Assigned		
NEWMA	Assigned		
SWMA	Assigned		
CWMA	Assigned		
NCWM			

	Number of Support Letters	Number of Opposition Letters	Comments
Industry			
Manufacturers			
Retailers and Consumers			
Trade Association			

***Notes Key:**

1. Submitted modified language
2. Item not discussed
3. No meeting held
4. Not submitted on agenda
5. No recommendation or not considered

Item Under Consideration:

Amend NIST Handbook 133 Checking the Net Contents of Packaged Goods as follows:

1.2.6.1. Applying a Moisture Allowance

Test procedures for flour, some meat, and poultry are based on the concept of a "moisture allowance consideration" also known as a "gray area" or "no decision" area (see Section 2.3.8. "Moisture Allowances ~~Considerations~~"). When the average net weight of a sample is found to be less than the labeled weight, but not more than the boundary of the "gray area," the lot is said to be in the "gray" or "no decision" area. The gray area is not a tolerance. More information must be collected before lot compliance or noncompliance can be decided. Appropriate enforcement should be taken on packages found short weight and outside of the "moisture allowance consideration" or "gray area."

Some packaged products may lose or gain moisture and, therefore, lose or gain weight or volume after packaging. The amount of moisture loss depends upon the nature of the product, the packaging material, the length of time it is in distribution, environmental conditions, and other factors. Moisture loss may occur even when manufacturers follow good distribution practices. Loss of weight "due to exposure" may include solvent evaporation, not just loss of water. For loss or gain of moisture, the moisture allowance~~s~~ **considerations** may be applied before or after the package errors are determined.

To apply a~~n~~ allowance **consideration** before determining package errors, adjust the Nominal Gross Weight (see Section 2.3.6. "Determine Nominal Gross Weight and Package Errors"), so the package errors are increased by an amount equal to the moisture allowance **consideration**. This approach is used to account for moisture loss in both the average and individual package errors.

It is also permissible to apply the moisture allowance~~s~~ **considerations** after individual package errors and average errors are determined.

> **Example:**
> *A sample of a product that could be subject to moisture loss might fail because the average error is minus or the error in several of the sample packages are found to be unreasonable errors (i.e., the package error is greater than the Maximum Allowable Variation **Consideration** (MAV) permitted for the package's labeled quantity).*

A sample of a product that could be subject to moisture loss might fail because the average error is minus or the error in several of the sample packages are found to be unreasonable errors (i.e., the package error is greater than the Maximum Allowable Variation (MAV) permitted for the package's labeled quantity).

You may apply a moisture allowance **consideration** after determining the package errors by adding the allowance to the Sample Error Limit (SEL) and then comparing the average error to the SEL to determine compliance. The moisture allowance must be added to the MAV before evaluating sample errors to identify unreasonable minus errors.

~~(Amended 2010)~~

This handbook provides "moisture allowance~~s~~ **considerations**" for some meat and poultry products, flour, pasta, *Cannabis* (this only includes plant material but does not include products containing *Cannabis*) and dry pet food. (see Chapter 2, Table 2-3. "Moisture Allowance~~s~~ **considerations**") These allowances are based on the premise that when the average net weight of a sample is found to be less than the labeled weight, but not by an amount that exceeds the allowable limit, either the lot is declared to be within the moisture allowance consideration or more information must be collected before deciding lot compliance or noncompliance.

~~(Amended 2024)~~

~~Test procedures for flour, some meat, and poultry are based on the concept of a "moisture allowance" also known as a "gray area" or "no decision" area (see Section 2.3.8. "Moisture Allowances"). When the average~~

~~net weight of a sample is found to be less than the labeled weight, but not more than the boundary of the "gray area," the lot is said to be in the "gray" or "no decision" area. The gray area is not a tolerance. More information must be collected before lot compliance or noncompliance can be decided. Appropriate enforcement should be taken on packages found short weight and outside of the "moisture allowance" or "gray area."~~

(Amended 2010. 2024 **and 20XX**)

2.3.7. Evaluate for Compliance

This inspection lot will pass or fail based on the sample test results. The following steps lead the inspector through the process to determine if a sample passes or fails. If the product is subject to a moisture allowance consideration, follow the procedures under Section 2.3.8. "Moisture Allowances" to correct the MAV.**2.3.7.1. Maximum Allowable Variation (MAV) Requirement**

1. Compare each minus package error with the MAV recorded in Box 3 or Box 4 (if using dimensionless units). Circle the package errors that exceed the MAV. These are "Unreasonable Minus Errors." Record the number of unreasonable minus errors found in the sample in Box 16.

2. Compare the number in Box 16 with the number of unreasonable errors allowed (recorded in Box 8). If the number found exceeds the allowed number, the lot fails. Record in Box 17 whether the number of unreasonable errors found is less or more than allowed.

   Note: If a total quantity declaration on a multiunit or variety package is being verified, and the MAV applied is not based on a percent of the labeled quantity (see Section 1.2.4.1. "Total Quantity MAV for Multiunit and Variety Packages).

   (Note Added 2022)

2.3.7.2. Average Requirement

…

4. Compliance Evaluation of the Average Error:

…

- If the value of the Average Error (disregarding the sign) (Box 18) is larger than the Sample Error Limit (Box 23), the sample fails. However, if the product is subject to moisture loss, the sample does not necessarily fail. Follow the procedures under "Moisture Allowance~~s~~ **Considerations**" in this chapter.

  (Amended 2018, 2022, and 20XX)

2.3.8. Moisture Allowances

When no predetermined allowance is found in NIST Handbook 133, the potential for moisture loss must be considered. Inspectors should follow their jurisdiction's guidance for making their determination on an acceptable moisture allowance **consideration**.

(Added 2010) **(Amended 20XX)**

If the product tested is subject to moisture loss, provide for the moisture allowance by following one of the two procedures listed below.

2.3.8.1 Applying Moisture Loss before Determining Package Errors

1. Determine the percent value of the moisture allowance if the product is listed below. (see Table 2-3. "Moisture Allowance~~s~~ **Considerations**.")

Table 2-3. Moisture Allowances-Considerations		
Verifying the labeled net weight of packages of:	**Moisture Allowance Consideration is:**	**Notes**
Flour	3 %	
Dry pet food	3 %	Dry pet food means all extruded dog and cat foods and baked treats packaged in Kraft paper bags and/or cardboard boxes with a moisture content of 13 % or less at time of pack.
Pasta products	3 %	Pasta products means all macaroni, noodle, and like products packaged in kraft paper bags, paperboard cartons, and/or flexible plastic bags with a moisture content of 13 % or less at the time of pack.
Borax	see Section 2.4. Borax	
Cannabis	3 %	*Cannabis* means plant material only, and not products containing *Cannabis*, whether containing more than 0.3 % Total Delta-9 THC (also known as cannabis, Marijuana, or Marihuana) or containing 0.3 % or less Total Delta-9 THC (also known as Hemp).
Wet Tare Only[1]		
Fresh poultry	3 %	Fresh poultry is defined as poultry above a temperature of − 3 °C (26 °F) that yields or gives when pushed with the thumb.
Franks or hot dogs	2.5 %	
Bacon, fresh sausage, and luncheon meats	0 %	For packages of bacon, fresh sausage, and luncheon meats, there is no moisture allowance **consideration** if there is no free-flowing liquid or absorbent material in contact with the product and the package is cleaned of clinging material. Luncheon meats are any cooked sausage product, loaves, jellied products, cured products, and any sliced sandwich-style meat. This does not include whole hams, briskets, roasts, turkeys, or chickens requiring further preparation to be made into ready-to-eat sliced product. When there is no free-flowing liquid inside the package and there are no absorbent materials in contact with the product, Wet Tare and Used Dried Tare are equivalent.

[1] Wet tare procedures must not be used to verify the labeled net weight of packages of meat and poultry packed at an official United States Department of Agriculture (USDA) facility and bearing a USDA seal of inspection. The Food Safety and Inspection Service (FSIS) adopted specific sections of the 2005 4th edition of NIST Handbook 133 by reference in 2008 but not the "Wet Tare" method for determining net weight compliance. FSIS considers the free-flowing liquids in packages of meat and poultry products, including single-ingredient, raw poultry products, to be integral components of these products (see Federal Register, September 9, 2008 [Volume 73, Number 175] [Final Rule – pages 52189-52193]).

Table 2-3. Moisture Allowances ~~-~~ Considerations		
Verifying the labeled net weight of packages of:	**Moisture Allowance Consideration is:**	**Notes**
Notes: (1) There is no moisture allowance **consideration** when inspecting meat and poultry from a USDA inspected plant when Used Dry Tare and "Category A" sampling plans are used. (2) For the Wet Tare Only section of Table 2-3. "Moisture Allowances ~~-~~ **Considerations**," free-flowing liquid and liquid absorbed by packaging materials in contact with the product are part of the wet tare. (Note Added 2010)		

(Amended 2010, 2013, ~~and~~ 2024**, and 20XX**)

2. To compute moisture allowance **consideration**, multiply the labeled quantity by the decimal percent value of the allowance. Record this value in Box 13a.

   Example:
   Labeled net quantity of flour is 907 g (2 lb)
   *Moisture Allowance **Consideration** is 3 % (0.03)*
   *Moisture Allowance **Consideration** = 907 g (2 lb) × 0.03 = 27 g (0.06 lb)*

3. If the Moisture Allowance **Consideration** is known in advance (e.g., flour, pasta products, and dry pet food), it can be applied by adjusting the Nominal Gross Weight used to determine the sample package errors. The Moisture Allowance **Consideration** in Box 13a is subtracted from the Nominal Gross Weight to obtain an Adjusted Nominal Gross Weight which is entered in Box 14. The Nominal Gross Weight is defined in Section 2.3.6.1. as the sum of the Labeled Weight and the Average Tare Weight from Box 13.

   Example:
   Use a Labeled Weight of 907 g (2 lb) and an Average Tare Weight of 14 g (0.03 lb)

   The calculation is:

   *Labeled Net Quantity 907 g (2 lb) + Average Tare Weight 14 g (0.03 lb) = 921 g (2.03 lb) – Moisture Allowance **Consideration** 27 g (0.06 lb) = Adjusted Nominal Gross Weight of 894 g (1.97 lb)*

   This result is entered in Box 14.

4. Determine package errors by subtracting the Adjusted Nominal Gross Weight from the Gross Weights of the Sample Packages.

   Example:
   The calculation is:

   Gross Weight of the Sample Packages – Adjusted Nominal Gross Weight = Package Error

Note: When the Nominal Gross Weight is adjusted by subtracting the Moisture Allowance **Consideration** value(s) the Maximum Allowable Variation(s) is not changed. This is because the errors that will be found in the sample packages have been adjusted by subtracting the Moisture Allowance **Consideration** (e.g., 3 %) from the Nominal Gross Weight. That increases the individual package errors by the amount of the moisture allowance **consideration** (e.g., 3 %). If the value(s) of the MAV(s) were also adjusted it would result in doubling the allowance **consideration**. MAV is always based on the labeled net quantity.

(Added 2010) **(Amended 20XX)**

2.3.8.2. Applying Moisture Allowance after Determining Package Errors

Adjustments can be made when the value of the Moisture Allowance **Consideration** is determined following the test (e.g., after the sample fails or if a packer provides reasonable moisture allowance **consideration** based on data obtained using a scientific method) using the following approach:

If the sample fails the Average Requirement but has no unreasonable package errors, only Step 1 is used. If the sample passes the Average Requirement but fails because the sample included one or more Unreasonable Minus Errors, only Step 2 is used.

If the sample fails the Average and MAV Requirements, both of the following steps are applied.

1. Use the following approach to apply a Moisture Allowance **Consideration** to the Average Requirement after the test is completed:
   - the Moisture Allowance **Consideration** is computed;
2. To apply Moisture Allowance **Consideration** to the MAV(s) after the test, the following method is recommended:
   - compute Moisture Allowance **Consideration**;

…

(Added 2010) **(Amended 20XX)**

2.3.8.3. Moisture Allowance Consideration Gray Area

When the average error of a lot of fresh poultry, franks/hot dogs, or pasta products is minus but does not exceed the established "moisture allowance **consideration**" or "gray area," contact the packer or plant management personnel to determine what information is available on the lot in question. Questions to the plant management representative may include:

This handbook provides "moisture allowance~~s~~ **considerations**" for some meat and poultry products, flour, pasta products, and dry pet food. These allowances are based on the premise that when the average net weight of a sample is found to be less than the labeled weight, but not by an amount that exceeds the allowable limit, either the lot is declared to be within the moisture allowance **consideration** or further investigation can be conducted.

NIST OWM Detailed Technical Analysis:

Section.

Summary of Discussions and Actions:

This item.

Regional Association Reporting:

Western Weights and Measures Association

At the 2025 WWMA Annual Meeting (September 2025), The WWMA L&R Committee heard comments on this item as part of Block 4 rather than as an individual item, so these comments apply to the whole block.

Mr. Kurt Floren (County of Los Angeles, California) stated that he was a member of the Moisture Allowance Task Group. This proposal is being considered because federal laws require regulators to consider moisture loss when applying tolerances. Variations in net weight occur due to fluctuations in moisture even with good distribution practices. The language the task group will be developing will be based upon the language in Federal law which speaks to "reasonable variation".

Mr. Aaron Yanker (Colorado Department of Agriculture, Weights and Measures), Mr. Austin Shepherd (County of San Diego, California), and Mr. Matt Douglas (California Division of Measurement Standards) expressed support for the task group and the comments made by Mr. Floren.

The WWMA L&R Committee recommends this item remain assigned.

At the WWMA 2024 Annual Meeting, Matt Douglas (Division of Measurement Standards – CA) recommended withdrawal as it is a training and education issue. Aaron Yanker (Department of Agriculture – CO) echoed Mr. Douglas statements and he also states that the application of moisture loss allowance is already clarified within the handbook. In addition, he said that the word "consideration" was more ambiguous.

Kurt Floren (County of Los Angeles – CA) suggested the following changes:
(1) L&R 128 line 14: The word "consideration" must be underlined in the proposal
(2) L&R 130 line 8: "allowance" must be struck-through, and "consideration" must be underlined
(3) The sections under 4.10.2.2. must be renumbered.
(4) The sections under 4.11.2.2. must be renumbered.

He also suggests excluding section 4.10. Structural Plywood and Wood-Based Structural Panels and section 4.11. Softwood Lumber, because these items have a built-in moisture testing requirement that would mandate an allowance for moisture. Mr. Floren supports this item because for decades the moisture loss provisions have been misconstrued. When a commodity fails within the moisture loss gray area, it is the weights and measures official's duty to consider whether moisture loss was a factor in the net weight. He said this is explicitly stated in handbook 133, Appendix F.

Jose Arriaga (County of Orange – CA) stated the term "consideration" is not the right word as it is too vague. He suggests the word "allowance" instead be replaced by the phrase "consideration for allowance". Steven Harrington (Department of Agriculture – OR) initially was not in support of this item, however, after hearing other testimony rose again to voice support of the item.

The WWMA L&R Committee sees merit in this proposal, however, the proposal should be further developed by the submitter based on the comments heard during Open Hearing. Therefore, the WWMA L&R recommends this item as developing.

Southern Weights and Measures Association

At the SWMA 2025 Annual meeting Mr. Tory Brewer, moisture allowance task group chair, commented that the moisture allowance task group has met only once and has decided to rewrite the entire moisture allowance section. The group will meet again in November and plans on having a tentative draft that will be presented in January at the NCWM 2026 interim.

The Committee recommends this item remain Assigned. This applies to all items in Block 4.

At the SWMA 2024 Annual Meeting, based on the comments heard from the floor the committee recommends this item to be assigned a Developing status with the recommendation that the submitter address the definition of "consideration" and address the removal of "moisture allowance" from the definitions in the handbook. Based on comments the committee suggests that submitter address the potential conflicts with other industry standards with sections 4.10.2.2. and 4.11.2.1.

Christie Cordova, Georgia-Pacific Wood Products

In 2019, when wood panels and lumber were added to HB 133, we worked with NIST to reference our national production standards PS1, PS2 and PS20. Those standards outline acceptable moisture tolerances and were the basis for the current calculations in the handbook. Our regulatory agencies, APA and SPIB/ALSC, monitor and test for moisture as part of our quality assurance programs.

The test procedures in Section 4.10 and 4.11 require the moisture to be tested first and then a moisture allowance applied. The calculations listed in those sections as well in Tables 4-1 for plywood, 4-2 for OSB, 4-3 for dry lumber and 4-4 for green lumber are based on years of wood science data which we can provide for the committee.

We would ask that Sections 4.10 and 4.11 remain with the current language of moisture allowance and not changed to a "consideration".

Mark Lovisa, State of Louisiana, stated that Louisiana supports this item and believes that using "consideration" instead of "allowance" makes the section clearer and more accurate. He further stated that "allowance" implies that it is intended where "consideration" gives the option to take into account other factors that may affect moisture loss.

Northeastern Weights and Measures Association

At the NEWMA Interim Meeting Comments were heard together on all items in Block 4. All comments heard apply to each item in this Block 4.

A regulator from New York (and member of the Moisture Task Group) gave an update. He commented that the task group met on October 7, 2025 and will be meeting monthly. They are looking to align the language with federal language. A regulator from New Jersey commented they are looking forward to the work of the task group and recommended an Assigned status.

After hearing comments from the floor, the committee recommended an Assigned status, and the body concurred.

At the NEWMA 2024 Interim Meeting, Jason Flint, New Jersey – Stated he is not opposed to the wording change but believes the word "consideration" or grey area needs to be more defined. NJ recommends developing and to be assigned to a new Moisture Allowance/Consideration Task Group. Marc Parquette,

NCWM Chair, Vermont – Agrees with New Jersey, and stated this is larger than just the Cannabis Task Group and recommends the item be developing.

Cheryl Ayer, New Hampshire – Agrees with the previous comments and agrees the item should be developing. Steve Timar, New York – concurs with previous, concerned about the 3% moisture loss. Not everything should be changed to moisture considerations in reference to Table 2. Not everything should be changed from allowance to considerations. Jim Willis, New York – agrees it's a worthwhile endeavor, and recommends the item be developing.

The committee recommends this as an assigned item.

Central Weights and Measures Association

At the 2025 CWMA Interim Meeting in October 2025

At the CWMA 2024 Interim Meeting: Daniel Walker, OH, supports this item and recommends a Voting status. Ron DePouw, WI, supports this item. The committee recommends this as a voting item.

References

[1] NIST OWM Analysis and Executive reports **https://www.nist.gov/pml/weights-and-measures/publications/owm-technical-analysis**

[2] National Conference on Weights and Measures Publication 15 (2023) and 16 (2023) **https://www.ncwm.com/**

[3] 1905-2021 NCWM Annual Conference reports **https://www.nist.gov/pml/weights-and-measures/publications/ncwm-annual-reports**

Appendix A. Supplemental Documents

Appendix B. Glossary of Acronyms and Terms

ASTM — ASTM International

API — American Petroleum Institute

CFR — Code of Federal Regulations

CWMA — Central Weights and Measures Association

FALS — Fuels and Lubricants Subcommittee

FDA — Food and Drug Administration

FTC — Federal Trade Commission

HB — Handbook

ILMA — Independent Lubricant Manufacturers Association

L&R — Laws and Regulations

LPG — Liquefied Petroleum Gas

MAV — Maximum Allowable Variation

NCWM — National Council on Weights and Measures

NEWMA — Northeastern Weights and Measures Association

NIST — National Institute of Standards and Technology

OWM — Office of Weights and Measures

PALS — Packaging and Labeling Subcommittee

RMFD — Retail Motor-Fuel Dispenser

S&T — Specification and Tolerances

SAE — SAE International

SWMA — Southern Weights and Measures Association

UPLR — Uniform Packaging and Labeling Regulation

USDA – FSIS — U.S. Department of Agriculture – Food Safety and Inspection Service

USNWG — U.S. National Work Group

WWMA — Western Weights and Measures Association