

## 52<sup>nd</sup> Annual Western Weights and Measures Association Conference Laws and Regulations Committee

Jeff Humphreys, Chairman  
Los Angeles County, CA

Reference  
Key Number

### 200 INTRODUCTION

The 2009 WWMA Laws and Regulations Committee (Committee) will address the following items at its 52<sup>nd</sup> Annual Conference. Table A identifies agenda items by Reference Key Number, title, and page number. The first three digits of the reference Key Numbers of the items are assigned from the subject series listed below. The fact that an item may appear on the agenda does not mean it will be presented to the WWMA for a vote. The Committee may withdraw some items, present some items for information and further study, issue interpretations, or make specific recommendations for changes to publications listed below. The recommendations presented in this agenda are statements of proposal and not necessarily recommendations of the Committee. The appendices to the report are listed in Table B.

This is a list of the Carry-over Items from the report of the Laws and Regulations Committee (referred to as “Committee” below) from the 94th Annual Meeting of the National Conference on Weights and Measures (NCWM). It is based on the Interim Report offered in the NCWM Publication 16, “Committee Reports,” testimony at public hearings, comments received from the regional weights and measures associations and other parties, the addendum sheets issued at the Annual Meeting, and actions taken by the membership at the voting session of the Annual Meeting. The informational items presented below were adopted as presented when this report was approved.

This report contains recommendations to amend National Institute of Standards and Technology (NIST) Handbook 130, 2009 Edition with 2010 amendment, “Uniform Laws and Regulations,” or NIST Handbook 133, “Checking the Net Contents of Packaged Goods,” Fourth Edition (January 2005). Proposed revisions to the handbook(s) are shown in **bold face print** by ~~striking out~~ information to be deleted and underlining information to be added. New items proposed for the handbooks are designated as such and shown in **bold face print**. Text presented for information only is shown in *italic* print. When used in this report, the term “weight” means “mass.”

**Note:** The policy of NIST is to use metric units of measurement in all of its publications; however, recommendations received by the NCWM technical committees have been printed in this publication as they were submitted and, therefore, some may contain only reference to inch-pound units.

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**232 METHOD OF SALE REGULATION**

**232-1 Method of Sale for Fireplace and Stove Wood, Flavoring Chips and Packaged Natural Wood**

**Source:** Southern Weights and Measures Association (SWMA)

**Background:** A state cited a company in violation of their net quantity contents labeling for flavoring chips. This citation also led to this company’s product being removed from sale. The company was also advised to review all their packaging and labeling for compliance with NIST HB 130 regulations. The company requested assistance from NIST WMD on the appropriate unit of metric measure for their flavoring chip packaging. Upon review it became apparent that the regulation lacked clarity for the proper unit use of metric measure by volume. When a quantity statement for cubic meter is carried out to three decimal points, it has limited meaning and is likely not useful in making value comparisons.

In HB 130, Method of Sale Regulation, Section 2.4.3.(d) states that flavoring chips shall be sold by volume, but it falls short of saying which volume units are required. Most packers also refer to Section 2.4.3. Quantity; where the guidance implies that it must be sold by the cubic meter. This permits the Method of Sale to be in conflict with Uniform Packaging and Labeling Regulation (UPLR) Declaration of Quantity for Consumer Packages Rule of 1000. Using cubic centimeters puts packers in conflict as well. Most states, if not all, give precedent to UPLR over the Method of Sale.

This item was presented at NCWM 2008 Annual Meeting and at all of the regional meetings.

At the 2009 Interim Meeting it was requested to add the words “up to one cubic foot” after the words cubic inches. The Committee agreed to modify the proposal and move it forward for a vote at the 2009 Annual Meeting.

At the CWMA 2009 Annual Meeting held in St. Louis, Missouri on May 3-6, 2009, the NIST Technical Advisor recommended that the proposal be changed in Section 2.4.3. (a) to read as ... fractions of liters ~~cubic meters~~. A state regulator stated that the proposal conflicts HB 44 “Units of Measures” and believes that liters should only be used for fluid measurements. After review of HB 44, Appendix C (pgs C-2 and C-8), the L&R Committee did not feel that there is a conflict. The Committee supports this item for the following reasons: “A precedent has been established for use of liters in dry measure (e.g. mulch), traditional industry practices utilize liters as their method of sale, it provides a better value comparison, and it would remove the current conflict with violation of the Rule of 1000 when cubic meters are used.”

At the 2009 NEWMA Annual Meeting held in South Portland, Maine, May 11-14, 2009, the Committee supported this item along with the recommended changes from the NIST Technical Advisor. The NIST Technical Advisor recommended that the proposal be change in Section 2.4.3. (a) to read as ... fractions of liters ~~cubic meters~~. A state

official stated that the changes to this section are being made to correct a technical error with the use of metric measure and that customary units will not change. An industry representative questioned whether liters would be the correct metric measure and suggested decimeters. It was noted that decimeters and liters are equivalent.

At the 2009 Annual Meeting in San Antonio, TX there was discussion that this proposal needs additional review by the Committee for editorial changes. The proposal is not clear and precise as presently submitted. It was recommended that the term “fraction of liters and cubic feet” be given consideration. This proposal is being returned to the Committee for additional clarification.

**Committee Recommendation:** Amend Section 2.4.3. as follows:

2.4.3. Quantity. – Fireplace and stove wood - Shall be advertised, offered for sale, and sold only by measure, using the term “cord” and fractional parts of a cord or the cubic meter, except that:

- (a) Packaged natural wood. – Natural wood offered for sale in packaged form in quantities less than  $0.45 \text{ m}^3$  ( $1/8$  cord or  $16 \text{ ft}^3$ ) shall display the quantity in terms of ~~cubic meters~~ **liters**, to include ~~decimal~~ fractions of cubic meters; or cubic feet **cubic inches up to one cubic foot**, to include fractions of **a cubic ~~feet~~ foot**.
- (b) Artificial compressed or processed logs. – A single fireplace log shall be sold by weight, and packages of such individual logs shall be sold by weight plus count.
- (c) Stove wood pellets or chips. – Pellets or chips not greater than 15 cm (6 in) in any dimension shall be sold by weight. This requirement does not apply to flavoring chips.  
(Amended 1976 and 1991)
- (d) Flavoring chips. – ~~Flavoring chips shall be sold by volume.~~ **Flavoring chips offered for sale in packaged form in quantities less than  $0.45 \text{ m}^3$  ( $1/8$  cord or  $16 \text{ ft}^3$ ) shall display the quantity in terms of liters, to include fractions of liters, cubic feet, or cubic inches up to one cubic foot, to include fractions of a cubic foot.**  
(Added 1998)

**Note: In determining the appropriate Method of Sale, a clear distinction must be made as to whether the wood is being sold primarily as fuel (some wood is sold as fuel but flavoring is a byproduct) or strictly a wood flavoring.**

## 260 NIST HANDBOOK 133

### 260-1 Guidance on Allowing for Moisture Loss and Other Revisions

**Background:** At the 2009 Interim Meeting in Daytona Beach, Florida, the NIST Technical Advisor gave a presentation to the moisture loss work group (MLWG) titled “NIST Handbook 133 Checking the Net Contents of Packaged Goods – An explanation of its statistical requirements and approaches to allowing for moisture loss from packaged goods.”

The MLWG also reviewed draft changes it has developed to revise and update the 4<sup>th</sup> Edition of NIST Handbook 133 “Checking the Net Contents of Packaged Goods” 2005. Some of the changes were developed to improve the guidance on making moisture allowances. Listed below is a table of proposed corrections and revisions for review. It was requested that comments or concerns regarding the draft changes be submitted into the NIST Technical Advisor. It was recommended that the states distribute this document to interested parties within their state for comment. The MLWG will meet Sunday, July 12, 2009, at the Annual Meeting in San Antonio, Texas, to consider any comments received prior to the meeting.

The United States Department of Agriculture (USDA), Food Safety and Inspection Service (FSIS) issued a final ruling on 9 CFR parts, 317, 381, and 442 (refer to Table B, Appendix B) “Determining Net Weight Compliance for Meat and Poultry Products” which state the procedures set forth for determining “net weight compliance.” This rule which requires the use of the 4<sup>th</sup> Edition of NIST HB 133 “Checking the Net Contents of Packaged Goods” for use in all inspections of packages of meat and poultry products subject to federal law and USDA regulations effective October 9, 2008. Therefore, the incorporated provisions of NIST Handbook 133 do not serve merely as compliance guidance, but are a part of the meat and poultry products inspection regulations.

To be consistent with this final rule, state and local officials must determine net weight compliance for meat and poultry products, including single-ingredient, raw poultry, in a manner that includes the free-flowing liquids as part of the product and not part of the tare weight.

The MLWG updated NIST HB 133 Section 2.3. “Basic Test Procedure” to be consistent with 9 CFR parts, 317, 381, and 442. That means removing any reference to the “wet tare” method for determining net weight of USDA restricted products, since FSIS considers free-flowing liquid to be part of the product.

At the CWMA 2009 Annual Meeting held May 3-6 in St. Louis, MO, the Committee recommended support of this item. Comments documented during open hearings were; An industry representative recommended: Chapter 1-3 – add “compliance” to the reasons listed since manufacturers “overpack” to meet current regulations; Chapter 1-2 – “moisture” should be inserted in front of allowance (last paragraph of L&R - C5); there is a need to recognize that other products may be subject to moisture loss for which allowances have not been established; Chapter 2-3 – and Chapter 2-5 – the dates referenced can be removed since they are already past; Chapter 2-7 . The representative cautioned that this proposal does not “finish” the issue with moisture loss. There are two questions which remain: 1. What guidance can be provided for manufacturers with products other than those listed for moisture loss? 2. What methodology is necessary for manufacturers to demonstrate the data needed for a moisture allowance?

A state regulator objected to this proposal as a voting item and stated that members cannot vote on this item since the information will not be available until the July meeting. He recommended that the proposal be moved to informational. He acknowledged that Handbook 133 is a NIST publication but stated that due process must be provided since the NCWM does vote to adopt the changes in this handbook”.

At the CWMA voting session, the membership voted not to accept the recommendation of the Committee and recommended the item be made informational.

At the 2009 NEWMA Annual Meeting, held May 11 -14, 2009 in South Portland, Maine, the Committee recommended support of this item. The group discussed the meaning of “editorial” and agreed that due to the volume of changes being recommended, the correct process is to have a review of all the comments received, then be voted on by NCWM. A state official suggested that the document be distributed over the NIST Commodities Server List. A recommended change to HB133 Chapter 3, section 2.6 specifically references the use of glaze with frozen seafood products. It was suggested that wording to include other glazed products such as frozen chicken. (i.e. glazed chicken wings).

At the NCWM 2009 Annual Meeting in San Antonio, TX the MLWG met on July 12. The NIST Technical Advisor informed the Committee and the MLWG that the draft HB 133 was sent out mid-May 2009 on the Weights and Measures Directors, NCWM HB44 and Commodities list servers, and e-mailed to interested stakeholders, MLWG attendees, and trade associations. Additional comments and recommendations received were distributed to the Committee.

Handbook 133 was reviewed in its entirety by the MLWG. Current changes and recommendations to HB 133 are reflected in Appendix A. State Directors voiced concern that they had not had ample time to thoroughly review and evaluate the changes. A working draft document of Handbook 133 is located in Appendix B.

Committee Recommendation: NIST will incorporate changes from the July 12 MLWG meeting. NIST will disseminate this information to all stakeholders using their contact point information system and list servers (W&M Directors and the NCWM HB44 and Commodities list server).

## 270 OTHER ITEMS – DEVELOPING ITEMS

### INTRODUCTION

The NCWM established a mechanism to disseminate information about emerging issues which have merit and are of national interest. Developing items have not received sufficient review by all parties affected by the proposals or may be insufficiently developed to warrant review by the NCWM L&R Committee. The Developing items listed are currently under review by at least one regional association, subcommittee, or work group (WG).

The Developing items are marked according to the specific NIST handbook into which they fall – HB 130 or HB 133. The Committee encourages interested parties to examine the proposals included in the appendices and to send their comments to the contact listed in each part.

The Committee asks that the regional weights and measures associations, subcommittees, and WGs continue their work to develop fully each proposal. Should an association, subcommittee, or WG decide to discontinue work on a Developing item, the Committee asks that it be notified. When the status of an item changes because the submitter withdraws the item, the item will be listed in a table below. For more details on items moved from the Developing items list to the Committee's main agenda, refer to the new reference number in the main agenda.

#### **270-1 Amend Section 2.2.1. in Handbook 130, Uniform Engine Fuels Regulation – Premium Diesel Lubricity**

**Source:** Southern Weights and Measures Association (SWMA) (See Item 270-5 in the Report of the 92<sup>nd</sup> Annual NCWM Meeting in 2006)

**Background/ Discussion:** (Refer to the NCWM 93<sup>rd</sup> Annual Meeting (2008) for background information on this Item.) A member of the petroleum industry believed the test and associated tolerances for lubricity on premium diesel specified in Section 2.2.1.(d) were inconsistent with that for regular diesel. Effective January 1, 2005, the test tolerance for regular diesel lubricity was the ASTM D6079 reproducibility of 136  $\mu\text{m}$  (see ASTM D975-04b). The NCWM chose to accept the ASTM reproducibility limits for all diesel (D975) and gasoline (D4814) properties (see Section 7.2.2. Reproducibility), but chose a different reproducibility limit for premium diesel lubricity without providing any explanation as to why the ASTM reproducibility limit was insufficient. If the NCWM intended to impose a stricter lubricity requirement for premium diesel, it should have designated a tighter specification for this property, not a different test tolerance (e.g., for regular and premium gasoline, premium has a different octane specification than for regular, but the test tolerance is the same). ASTM reproducibility limits were, by definition, based on establishing a 95 % probability that product that should pass, will pass. Applying an average test as specified in Section 2.2.1.(d) reduced that probability to 80 %.

At the WWMA 2006 Annual Meeting, the WWMA L&R Committee received only one comment regarding this item, acknowledging the ongoing review by the Fuels and Lubricants Subcommittee (FALS). The WWMA noted that the NCWM L&R Committee forwarded the proposal for review by the Subcommittee and agreed this item should remain Developmental pending its recommendation.

At its 2006 Interim Meeting, the CWMA indicated the NCWM Fuel and Lubricant Subcommittee would make recommendations after ASTM improved the test method's precision and after the conclusion of other tests. The CWMA L&R Committee was awaiting the recommendation from the Subcommittee.

During the 2007 Interim Meeting, the Committee carried this item over as an Information item. The Committee sent this proposal to FALS and requested its recommendation on how to proceed with the issue. The FALS suggested this item remain on the agenda as an Information item until further notice and reported that the activities of ASTM International and the Coordinating Research Council were continuing.

At the 2008 Interim Meeting in Albuquerque, New Mexico, and the 2008 Annual Meeting in Burlington, Vermont, the Committee carried this item over as a Developing item. This proposal was sent to FALS for its recommendation on how to proceed with the issue. FALS suggested this item remain on the agenda as a Developmental item.

At the CWMA 2008 Interim Meeting the Committee requested that this item remain Informational pending release of the FALS recommendation, Coordinating Research council study and the ASTM Lubricity Test Method Task Force reports. At the NEWMA, WWMA and SWMA 2008 Annual Meetings the Committees recommended that this item remain Informational from FALS.

NEWMA held their Interim Meeting in October 2008 where they heard from a representative of the bio-diesel industry who briefed members on the newly adopted FTC standards regarding bio-diesel products, including the labeling of B-5, B-20, and B-100. One member expressed a concern regarding the “field testing” of bio-fuel blends and quality. This member also expressed that not enough testing occurs with regard to “octane quality” and that bio-blend testing would probably be conducted even less.

At the 2009 Interim Meeting in Daytona Beach, Florida, FALS reported to the Committee that they are awaiting development of items from ASTM.

At the CWMA 2009 Annual Meeting, the Committee recommended that this item remain informational. The Chairman of the Fuels and Lubricants Subcommittee provided an update on the work being done at ASTM. ASTM conducted a round robin to develop better precision for measuring lubricity. There is a Coordinating Research Council study to determine whether the wear scar limit is adequate to provide protection.

At the 2009 NEWMA Annual Meeting, the Committee recommended that this item remain informational. The Chairman of the Fuels and Lubricants Subcommittee stated the committee is continuing to work on this item.

At the 2009 Annual Meeting held in San Antonio, TX the FALS Chairperson gave an update that ASTM is still working on improving the precision of the test method. This should go to ballot at ASTM this semester and be final in December. The Committee recommends that this item remain informational until ASTM adopts a revision to its standard.

**Proposal:** Amend Section 2.2.1. Premium Diesel Fuel in Handbook 130 Uniform Engine Fuels and Automotive Lubricants Regulation. The following reflects the current text as it was modified in 2003.

**2.2.1. Premium Diesel Fuel.** – All diesel fuels identified on retail dispensers, bills of lading, invoices, shipping papers, or other documentation with terms such a premium, super, supreme, plus, or premier must conform to the following requirements:

- (a) **Cetane Number.** – A minimum cetane number of 47.0 as determined by ASTM Standard Test Method D613.
- (b) **Low Temperature Operability.** – A cold flow performance measurement which meets the ASTM D975 tenth percentile minimum ambient air temperature charts and maps by either ASTM Standard Test Method D2500 (Cloud Point) or ASTM Standard Test Method D4539 (Low Temperature Flow Test, LTFT). Low temperature operability is only applicable October 1 - March 31 of each year.
- (c) **Thermal Stability.** – A minimum reflectance measurement of 80 % as determined by ASTM Standard Test Method D6468 (180 min, 150 °C).
- (d) **Lubricity.** – A maximum wear scar diameter of 520  $\mu\text{m}$  as determined by ASTM D6079. If an enforcement jurisdiction’s single test of more than 560  $\mu\text{m}$  is determined, a second test shall be conducted. If the average of the two tests is more than 560  $\mu\text{m}$ , the sample does not conform to the requirements of this part.

(Amended 2003)

For additional information, please contact Ron Hayes, FALS Chairman, (573) 751-2922 or [ron.hayes@mda.mo.gov](mailto:ron.hayes@mda.mo.gov) by e-mail.

## 270-2 Fuels and Lubricants Subcommittee (FALS)

**Background:** The Subcommittee had met on January 24, 2007, at the 2007 NCWM Interim Meeting to undertake a review of a number of significant issues related to fuel standards. Their first project was to undertake a major review and update of the Uniform Engine Fuels, Petroleum Products, and Automotive Lubricants Regulation in HB 130. The Subcommittee also met at the 2007 Annual Meeting and continued its work on a number of items in addition to preparing a major revision of the Fuel Ethanol Specifications.

An additional project will be to update and possibly expand the Basic Engine Fuels, Petroleum Products, and Lubricants Laboratory Publication. The Subcommittee will undertake other projects as time and resources permit.

At the 2009 Interim Meeting and Annual Meeting, the FALS Chairperson informed the Committee that FALS is working toward getting changes made to the language within the document.

If you would like to participate in this Subcommittee, contact Ron Hayes, Chairperson Fuels and Lubricants Subcommittee, at (573) 751-2922, e-mail: ron.hayes@mda.mo.gov or Ken Butcher at (301) 975-4859, e-mail: kbutcher@nist.gov.

## 270-3 Pelletized Ice Cream

**Background:** At the 2008 Annual Meeting open hearings, Cary Frye from the International Ice Cream Association (IICA), gave a briefing on behalf of industry on pelletized ice cream. Ms. Frye gave a briefing on the product, standard of identity, test method procedures and several other key points. Ms. Frye informed that conference that additional assistance would be required from the Food and Drug Administration (FDA) (refer to Appendix C). Once FDA has addressed the issues and concerns, NIST will host a second meeting at NIST in Gaithersburg, Maryland, to follow up and seek resolution on the outstanding concerns. NIST will send out a meeting announcement to all state Directors and all other interested parties via the NIST W&M list server.

The NIST Weights and Measures Division submitted to the Committee detailed minutes pertaining to the June 27, 2008, meeting held at NIST in Gaithersburg, Maryland, concerning issues and concerns with the pelletized ice cream product. The minutes (refer to Table B Appendix E refer to Item 237-2 in the report of the 94<sup>th</sup> Interim Meeting in 2009) provide great detail of the current issue, background information, representatives and manufacturers, method of sale, and test method procedure.

This item has been presented at the WWMA and SWMA Annual Meeting and at the NEWMA and CWMA Interim Meetings. NEWMA discussed this issue, including the FDA's role and their impact on the NCWM process. One member stated that the FDA may be slow to reach a decision because of an impending change in leadership. Another member expressed the difficulty (practical experience) of testing this product.

All regions are in agreement that this item should remain Developmental until further information is received from FDA. At the 2009 Interim Meeting, it was reported by the NIST Technical Advisor that FDA is actively working on this item.

At the 2009 Annual Meeting in San Antonio, TX the NIST Technical Advisor presented a letter dated April 17, 2009 (see Appendix D) from FDA regarding their decision regarding the method of sale for pelletized ice cream. FDA declared that pelletized ice cream is a semisolid food, in accordance with 21 CFR 101.105(a), the appropriate net quantity of content declaration for this type of product is net weight. A FDA official attending the Annual Meeting stated that manufacturers have until April 2010 to modify their labels with a net weight declaration. Manufacturers that are unable to meet this deadline will need to contact FDA. FDA will look at each extension request on a case-by-case basis only.

**Recommendation:** Amend Section 1.7 of the Method of Sale Regulation to include 1.7.2 Pelletized Ice Cream

**1.7. Other Milk Products.** – Cottage cheese, cottage cheese products, and other milk products that are solid, semi solid, viscous, or a mixture of solid and liquid, as defined in the Pasteurized Milk Ordinance of the U.S. Public Health Service, as amended in 1965, shall be sold in terms of weight.

(Amended 1995)

**1.7.1. Factory Packaged Ice Cream and Similar Frozen Products.** – Ice cream, ice milk, frozen yogurt, and similar products shall be kept, offered, or exposed for sale or sold in terms of fluid volume.

(Amended 1995)

**1.7.2. Pelletized Ice Cream - A semisolid food product manufactured at very low temperatures using a nitrogen process and consists of small beads of varying sizes. Bits of inclusions (cookies, candy, etc.) which also vary in size and weight may also be mixed with the pellets.**

**1.7.2.1. Method of Retail Sale - Packaged pelletized ice cream shall be kept, offered, or exposed for sale on the basis of net weight.**

**(NOTE: This method of sale shall be enforceable after April 17, 2010)**

#### **270-4 Method of Sale and Engine Fuel Quality Requirements for Hydrogen**

**Source:** Western Weights and Measures Association (WWMA)

**Proposal:** The proposal is to add a Developing item to the 2008 - 2009 L&R agenda for method of sale and engine fuel quality requirements for hydrogen in NIST Handbook 130 (HB 130) to address gaseous hydrogen refueling applications. Note: There is a corresponding proposal to add a draft Hydrogen Gas Measuring Devices Code in NIST HB 44 to address requirements for hydrogen gas refueling equipment.

**Background:** Eighteen states have hydrogen refueling dispensers in operation. Hydrogen stations using permanent and mobile refueling systems for automobiles, fleet vehicles (buses), forklifts, airport totes, are increasing and may go unnoticed. Many stakeholders who are not familiar with the weights and measures standards process will need to participate at this stage rather than after this is a commercial application. This effort by the U.S. National Work Group (USNWG) is to ensure there are appropriate standards and test procedures in place in time for dispenser manufacturers, service agencies, and officials, and to educate the general public, not if, but when hydrogen becomes commercially available.

Existing codes do not fully address hydrogen refueling applications because of hydrogen's properties and other technical differences in the setup and operations of dispensing systems. The development of legal metrology standards for newly emerging hydrogen technology is a necessary component of the hydrogen infrastructure. The weights and measures community must have time to consider requirements for hydrogen-refueling systems before this application is available for public access at corner service stations.

The USNWG is bringing the proposal before the weights and measures community to share this information about upcoming standards for an emerging technology. The simultaneous development of the code and corresponding test procedures will allow for input from the W&M and hydrogen communities, appropriate trials of the standards, and to address all areas of concerns early in the standards development process.

This item was reviewed at the WWMA and SWMA 2008 Annual Meeting and at the NEWMA 2008 Interim Meeting. NEWMA members generally discussed the "hydrogen issue" and its usage in the marketplace. It is anticipated that hydrogen at first will be relegated to "fleet vehicles" (such as CNG), and that retail sales will be slow in coming to the marketplace. NEWMA recommends that this item remain a Developing item.

At the 2009 Interim Meeting and 2009 Annual Meeting, the NIST Technical Advisor briefed the Committee on work that the USNWG Fuels Specifications Subcommittee (FSS) has done to date (refer to Appendix E).

**Recommendation:** The USNWC FSS presented the following December 2008 recommendation for consideration by the 2009 NCWM Laws and Regulations Committee.

**Section 2. Non-food Products** <sup>[Note 1, page 103]</sup>

**2.XX. Retail Sales – Hydrogen Fuel (H).**

**2.XX.1. Definitions – Hydrogen Fuel (H).**

**2.XX.1.1. Hydrogen Fuel. – A fuel composed of the chemical hydrogen intended for consumption in an internal combustion engine or fuel cell.**

The symbol for hydrogen vehicle fuel shall be the capital letter “H” (the word Hydrogen may also be used.)

**2.XX.2. Method of Retail Sale and Dispenser Labeling. – All hydrogen fuel kept, offered, or exposed for sale and sold at retail shall be in terms of the kilogram.**

**2.XX.3. Retail Dispenser Labeling.**

**2.XX.3.1. A computing dispenser must display the unit price in whole cents on the basis of price per kilogram.**

**2.XX.3.2. The service pressure(s) of the dispenser must be conspicuously shown on the user interface in bar or the SI Unit of Pascal (Pa) (e.g., MPa).**

**2.XX.3.3. The product identity must be shown in a conspicuous location on the dispenser.**

**2.XX.3.4. National Fire Protection Association (NFPA) labeling requirements also apply.**

**2.XX.3.5. Hydrogen shall be labeled in accordance with 16 CFR 309 – FTC Labeling Alternative Fuels.**

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

**2.XX.4.1. The unit price must be in terms of price per kilogram in whole cents (e.g., \$3.49 per kg, not \$3.499 per kg).**

**2.XX.4.2. The sign or advertisement must include the service pressure (expressed in megapascals) at which the dispenser(s) delivers hydrogen fuel (e.g., H35 or H70<sub>MPa</sub>).**

FSS supports the proposed new definitions to address gaseous hydrogen refueling applications.

**1. Specification for Hydrogen Fuel for Internal Combustion Engines and Fuel Cells**

**2. Definitions**

**1.XX. Fuel Cell. - an electrochemical energy conversion device in which fuel and an oxidant react to generate energy without consumption of its electrodes or electrolyte.**

**1.XX. Hydrogen Fuel. – a fuel composed of the chemical hydrogen intended for consumption in an internal combustion engine or fuel cell.**

**1.XX. Internal Combustion Engine. – a device used to ignite hydrogen in a confined space to create mechanical energy to power a motor vehicle.**

Proposed Specification for Hydrogen Fuel

The FSS identified several quality criteria where there was tentative agreement with their associated values and ability to be tested using current technology (see properties 6, 7, 8, 9, 12, 14, and 16 which are highlighted in green) in the proposed Table 1. Hydrogen Fuel Quality Specification. When a quality property and numerical value (defining a maximum or minimum limit) is added to the specification, appropriate test methods must then be identified. As test methods are identified and adopted by the FSS they will be added to column 6 in Table 1.

The FSS did not agree on all of the properties contained in the DMS proposal because there was either not enough research data or test methods available to support a decision (see properties 1, 2, 3, 4, 5, 10, 11, 13, and 15 which are highlighted in yellow) in Table 1 below. These and perhaps other properties will receive further consideration by the FSS and may be added to the quality standard in the future when such action is supported by research.

<b>Table 1. Hydrogen Fuel Quality Specification*</b>					
	<b>Property</b>	<b>Value</b>	<b>Unit</b>	<b>Limit</b>	<b>Test Method(s)</b>
1	Ammonia	0.1	ppm v/v	Maximum	to be specified
2	Carbon Dioxide	2	ppm v/v	Maximum	to be specified
3	Carbon Monoxide	0.2	ppm v/v	Maximum	to be specified
4	Formaldehyde	0.01	ppm v/v	Maximum	to be specified
5	Formic Acid	0.2	ppm v/v	Maximum	to be specified
6	Helium	300	ppm v/v	Maximum	to be specified
7	Hydrogen Fuel Index	99.97	% (a)	Minimum	to be specified
8	Nitrogen and Argon	100	ppm v/v	Maximum	to be specified
9	Oxygen	5	ppm v/v	Maximum	to be specified
10	Particulate Concentration	1	mg/kg	Maximum	to be specified
11	Total Allowable Non-Hydrogen, Non-Helium Constituents	100	ppm v/v	Maximum	to be specified
12	Total Non-hydrogen Gases	300	ppm v/v (c)	Maximum	to be specified
13	Total Halogenated Compounds	0.05	ppm v/v	Maximum	to be specified
14	Total Hydrocarbons	2	ppm v/v (d)	Maximum	to be specified
15	Total Sulfur Compounds	0.004	ppm v/v	Maximum	to be specified
16	Water	5	ppm v/v	Maximum	to be specified

Footnotes to Table 1 –

- Hydrogen fuel index is the value obtained with the value of total gases (%) subtracted from 100 %.
- Total Gases = Sum of all impurities listed on the table except particulates.
- Total Hydrocarbons may exceed 2 ppm v/v only due to the presence of methane, provided that the total gases do not exceed 300 ppm v/v.

\*The FTC’s Fuel Rating Rule (16 CFR Part 309) see the requirements in “Labeling of Alternative Fuels” at <http://www.ftc.gov/bcp/edu/pubs/business/autos/bus29.shtm> requires dispensers to bear an declaration of minimum percent of hydrogen determined according to test methods described in “Standard Test Method for Analysis of Natural Gas by Gas Chromatography” (ASTM D1946).

Additional information on this hydrogen proposal and the corresponding hydrogen gas measuring devices code can be found at <http://ts.nist.gov/WeightsAndMeasures/Developing-Commercial-Hydrogen-Measurement-Standards.cfm> For additional information on this item, contact Lisa Warfield at [lisa.warfield@nist.gov](mailto:lisa.warfield@nist.gov) or (301) 975-3308.

**Proposal 1: NCWM Form 15: Amend Handbook 130, Method of Sale Regulation Section 2.13.4. “Declaration of Weight.”**

**Proposal to WWMA L&R Committee – 2009**

<b>Priority Level:</b> (High) 1 2 3 4 5 (Low)	<b>Date:</b>	8-27-09
<b>Contact Person:</b>	Marianne Delperdang	<b>Telephone:</b> 714.342.8001
		<b>Fax:</b> 714.449.7249
		<b>Email:</b> mdelperdang@cdfa.ca.gov
<b>Jurisdiction:</b>	State of California, Division of Measurement Standards	
<b>Proposal:</b>	Amend Handbook 130, Method of Sale Regulation Section 2.13.4. “Declaration of Weight”.	
	Amend Section 2.13.4 as follows: <b><u>For the purpose of this regulation, when D is not known, the minimum density (D) used to calculate the target net weigh for linear low polyethylene products (LLDP) and products other than high density (HDPE) shall be 0.92 g/cm<sup>3</sup> (when D is not known). For products labeled “High Density,” HDPE, or similar wording, the minimum density (D) used to calculate the target net weight shall be 0.95 g/cm<sup>3</sup>.</u></b>	
<b>Problem/Justification:</b>	<p>Some manufacturers and distributors of polyethylene bags are using the calculated target weight identified in this section to understate the net quantity of their labels. The polyethylene industry recognizes a density value of 0.92 g/cm<sup>3</sup> for LLDP. When 0.92 g/cm<sup>3</sup> is used to calculate the target net weight of HDPE the product may make the target net weight. However, when the appropriate density value of 0.95 g/cm<sup>3</sup> is used to test HDPE the product often fails to meet the calculated target net weight. Further testing reveals than one or more of the labeled width, thickness, or count statements are inaccurate.</p> <p>Some manufacturers appear aware that weights and measures officials are restricted to test HDPE product using the 0.92 g/cm<sup>3</sup> value because the actual density value is not stated on the product label and the existing procedural guidelines do not address high density polyethylene materials. When testing at manufacturing locations, weights and measures officials are able to obtain information regarding the density of the product from the manufacturer. However, at distributor locations, density information is not available and officials must test using the 0.92 g/cm<sup>3</sup> value designated in Handbooks 130 and 133 to verify the weight of the product. Similarly, when the product has no net weight statement on the package, 0.92 g/cm<sup>3</sup> is the only factor that the inspector may use to calculate the target net weight.</p>	
<b>Other Reasons For and/or Against:</b>	When the original formula for developing target weight was developed, high density plastic bags had not entered the marketplace. This product is now quite prevalent in the United States. The proposed change to Section 2.13.4 will assist weights and measures inspectors enforce true value comparisons.	
<b>Additional Considerations:</b>	<p>The polyethylene bag industry recognizes two different density factors. This can be seen by going to the following manufacturers/distributors websites:</p> <p><a href="http://www.republicbag.com/formulas.html">http://www.republicbag.com/formulas.html</a>  <a href="http://www.dynalabcorp.com/technical_info_hd_polyethylene.asp">http://www.dynalabcorp.com/technical_info_hd_polyethylene.asp</a>  <a href="http://plastics.dow.com/plastics/na/prod/polyethylene/ldpe.htm">http://plastics.dow.com/plastics/na/prod/polyethylene/ldpe.htm</a>  <a href="http://plastics.dow.com/eur/prod/polyethylene/hdpe.htm">http://plastics.dow.com/eur/prod/polyethylene/hdpe.htm</a>  <a href="http://bapoly.matweb.com/searchresults.asp?lineID=1&amp;regionID=1">http://bapoly.matweb.com/searchresults.asp?lineID=1&amp;regionID=1</a>  <a href="http://bapoly.matweb.com/searchresults.asp?lineID=2&amp;regionID=1">http://bapoly.matweb.com/searchresults.asp?lineID=2&amp;regionID=1</a></p>	

**Proposal 2: NCWM Form 15: Amend Handbook 133, Chapter 4.7 Polyethylene Sheeting-Test Procedure - Footnote Step 3.**

**Proposal to WWMA L&R Committee - 2009**

<b>Priority Level:</b> (High) 1 2 3 4 5 (Low)	<b>Date:</b>	8-27-09
<b>Contact Person:</b>	Marianne Delperdang	<b>Telephone:</b> 714.342.8001
		<b>Fax:</b> 714.449.7249
		<b>Email:</b> mdelperdang@cdfa.ca.gov
<b>Jurisdiction:</b>	State of California, Division of Measurement Standards	
<b>Proposal:</b>	Amend Handbook 133, Chapter 4.7 Polyethylene Sheeting-Test Procedure	
Amend the Asterisked Footnote below Step 3 as follows: <b><u>*Determined by ASTM Standard D 1505-98 (or latest issue) "Standard Method of Test for Density of Plastics by the Density Gradient Technique."</u></b> For the purpose of this handbook, <b><u>when the actual density is not known, the minimum density used to calculate the target net weight shall be 0.92 g/cm<sup>3</sup> when the actual density is not known. For products labeled "High Density, HDPE, or similar wording, the minimum density (d) used to calculate the target net weight shall be 0.95 g/cm<sup>3</sup>.</u></b>		
<b>Problem/Justification:</b>	<p>Some manufacturers and distributors of polyethylene bags labeled as "High Density," or HDPE, have been found to package products whose labeled net weights meet calculated target net weights when employing a density factor of 0.92 g/cm<sup>3</sup>. When a density factor of 0.95 g/cm<sup>3</sup> is used, as appropriate, in the calculation for high density polyethylene materials, these products commonly fail to meet the calculated target net weight. Further testing of these packages of polyethylene bags reveals that one or more of the labeled width, thickness, or count statements are inaccurate.</p> <p>For example: A box of HDPE bas has stated dimensions of 24 in x 40 in x .4 mil, and a count of 250. Using the only density factor found in HB 133, 0.92 g/cm<sup>3</sup>the calculated target net weight, and that shown on the label, would be 6.38 lbs. If using the actual density factor for the HDPE bags of 0.95 g/cm<sup>3</sup>, the target net weight would be 6.59 lbs. This means that HDPE product distributors that place a net weight statement on their packages based upon the Linear Low Density Polyethylene (LLDP) density value (0.92 g/cm<sup>3</sup>have an approximately 3% advantage over the distributor that uses the correct, high density, factor.</p>	
<b>Other Reasons For and/or Against:</b>	<p>Changing the current language to the proposed test method for High Density Polyethylene products would close a loophole within HB 133 and provide much needed clarity within the industry. When the original testing procedure was developed, HDPE bags had not entered the marketplace. Currently, this product is quite prevalent in the United States. Amending the test procedure will aid weights and measures inspectors in enforcing labeling requirements that allow true value comparisons.</p>	
<b>Additional Considerations:</b>	<p>The proposed change to the testing procedure would impose no additional costs on those weights and measures jurisdictions conducting these tests.</p> <p>The polyethylene bag industry recognizes the two different density factors to be used in determining product net weight.</p>	

**Proposal 3: NCWM Form 15: Amend Handbook 133, Chapter 4.7 Polyethylene Sheeting-Test Procedure - T-shirt/Cut-out Bags.**

**Proposal to WWMA L&R Committee - 2009**

<b>Priority Level:</b> (High) 1 2 3 4 5 (Low)	<b>Date:</b>	8-27-09
<b>Contact Person:</b> Marianne Delperdang	<b>Telephone:</b>	714.342.8001
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<b>Jurisdiction:</b>	State of California, Division of Measurement Standards	

**Proposal:** Amend Handbook 133, Chapter 4.7 Polyethylene Sheeting-Test Procedure

Amend Chapter 4.7 Polyethylene Sheeting- Test Procedure as follows:

**When testing “t-shirt” or other bags with cut-outs for handles use the following guideline to determine the target net weight amount of product cut out of the original bag and removed from the container prior to packaging:**

**Calculate the target new weight in pounds of the bags as if there were no cut-out area:**

$$T \times A \times D \times 0.03613 \times 0.95 \times CT \times 2 = Z$$

**Where CT represent labeled count.**

**Calculate target weight in pounds of the cut out area of bags (Y) by multiplying Z x the Handle Cutout % as found in Table 4.7(a).**

**To determine the target net weight (X) of the package of t-shirt bags, subtract Z-Y.**

**Example: A package of t-shirt bags is labeled 12 in x 7 in x 22 in, 0.3 mil, 2000 count,**

$$0.0003 \times [(12-7) \times 22] \times 0.95 \times 0.03613 \times 2000 \times 2 = 17.216,$$

$$17.216 \text{ lbs} \times 0.104 \text{ (from Table 4.7(a))} = 1.79 \text{ lbs,}$$

$$17.216 \text{ lbs} - 1.79 \text{ lbs} = 15.42 \text{ lbs, the target net weight for the t-shirt bag container.}$$

**Table 4.7(a)**

<b><u>LENGTH</u></b>	<b><u>TOTAL WIDTH FACE WIDTH + GUSSET WIDTH</u></b>	<b><u>HANDLE CUT-OUT %</u></b>
<u>14 – 16.5</u>	<u>12 – 16.5</u>	<u>16.27%</u>
<u>16.6 – 18.5</u>	<u>12 – 16.5</u>	<u>15.60%</u>
<u>17 – 18.5</u>	<u>16.6 – 19.75</u>	<u>13.10%</u>
<u>18.6 – 19.5</u>	<u>16.6 – 19.75</u>	<u>12.40%</u>
<u>19.6 – 20.5</u>	<u>16.6 – 19.75</u>	<u>12.65%</u>
<u>20.6 – 22</u>	<u>16.6 – 19.75</u>	<u>10.70%</u>
<u>22.1 – 23.5</u>	<u>16.6 - 19</u>	<u>9.63%</u>
<u>22 – 24</u>	<u>19.76 – 22</u>	<u>10.40%</u>
<u>24.1 – 25.5</u>	<u>19.76 - 22</u>	<u>8.35%</u>
<u>28 – 32</u>	<u>22 – 24</u>	<u>7.10%</u>
<u>32.1 - 36</u>	<u>22 - 24</u>	<u>6.04%</u>
<u>28 – 32</u>	<u>24.1 – 26</u>	<u>6.20%</u>
<u>32.1 - 36</u>	<u>24.1 - 25</u>	<u>5.14%</u>

<b><i>Problem/Justification:</i></b>	
<p>Over the past several years there has been a rapid expansion of the production and distribution of high density polyethylene “t-shirt” (grocery) bags. The current directions for calculating the target net weight of packages containing these bags offer no guidelines to inspectors on how to determine net weight. Calculating the net weight of the cut-out area has been a challenge for the inspector. This makes it difficult to ensure that the weight statements on the packages are accurate.</p> <p>Spectrum Plastics Inc., located in Los Angeles County, CA developed, with the assistance of an engineering firm, a table (above) to provide guidelines to calculate the amount of cut-out area.</p>	
<b><i>Other Reasons For and/or Against:</i></b>	
<p>A recognized percentage of cut-out area will help dissuade fraud. The recommended changes would also provide to inspectors and industry much needed clarity when testing the net weight of containers of “t-shirt” or cut-out bags that are being offered for sale.</p>	
<b><i>Additional Considerations:</i></b>	

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