Report of the Laws and Regulations (L&R) Committee

Raymond Johnson, Committee Chair
New Mexico

200 INTRODUCTION

This is the report of the Laws and Regulations Committee (hereinafter referred to as the "Committee") for the 99th Annual Meeting of the National Conference on Weights and Measures (NCWM). This report 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 NCWM 2014 Online Position Forum, the addendum sheets issued at the Annual Meeting, and actions taken by the membership at the voting session of the Annual Meeting. The voting items shown below were adopted as presented when this report was approved. This report contains those recommendations to amend National Institute of Standards and Technology (NIST) Handbook 130 (2014), "Uniform Laws and Regulations in the Areas of Legal Metrology and Engine Fuel Quality," or NIST Handbook 133 (2014), "Checking the Net Contents of Packaged Goods," Fourth Edition.

Table A identifies the agenda items and appendix items. The agenda items in the Report are identified by Reference Key Number, title, page number and the appendices by appendix designations. The acronyms for organizations and technical terms used throughout the agenda are identified in Table C. The first three digits of the Reference Key Numbers of the items are assigned from The Subject Series List. The status of each item contained in the report is designated as one of the following: **(D) Developing Item:** the Committee determined the item has merit; however, the item was returned to the submitter or other designated party for further development before any action can be taken at the national level; **Informational (I) Item:** the item is under consideration by the Committee but not proposed for Voting; **(V) Voting Item:** the Committee is making recommendations requiring a vote by the active members of NCWM; **(W) Withdrawn Item:** the item has been removed from consideration by the Committee.

Table B provides a summary of the results of the voting on the Committee's items and the report in its entirety. Some Voting Items are considered individually, others may be grouped in a consent calendar. Consent calendar items are Voting Items that the Committee has assembled as a single Voting Item during their deliberation after the Open Hearings on the assumption that the items are without opposition and will not require discussion. The Voting Items that have been grouped into consent calendar items will be listed on the addendum sheets. Prior to adoption of the consent calendar, the Committee entertains any requests from the floor to remove specific items from the consent calendar to be discussed and voted upon individually.

Proposed revisions to the handbook(s) are shown as follows: 1) deleted language is indicated with a **bold face font using ~~strikeouts~~** (e.g., **~~this report~~**), and 2) proposed new language is indicated with an **underscored bold faced font** (e.g., **new items**). 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 NCWM technical committees and regional weights and measures associations have been printed in this publication as submitted. Therefore, the report may contain references to inch-pound units.

Subject Series List

Table A
Table of Contents

Appendices

Table B
Voting Results

Reference Key Number	*House of State Representatives*		*House of Delegates*		*Results*
	Yeas	*Nays*	*Yeas*	*Nays*	
Consent Calendar					
231-2					Adopted
232-4					Adopted
232-6					Adopted
232-7					Adopted
232-8					Adopted
237-6					Adopted
237-7					Adopted
237-9					Adopted
237-10					Adopted
237-11					Adopted
260-2					Adopted
232-3*	29	9	14	27	Returned to Committee
237-2*	29	9	14	27	Returned to Committee
237-8	14	20	19	11	Returned to Committee

* Items 232-3, 237-2 and 337-2 were voted upon as a block.

Table C
Glossary of Acronyms and Terms

Acronym	Term	Acronym	Term
ACEA	European Automobile Manufacturers Association	HB 44	"Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices"
AKI	Minimum Antiknock Index	HB 130	"Uniform Laws and Regulations in the Areas of Legal Metrology and Engine Fuel Quality"
AOAC	AOAC International (Association of Analytical Communities)	HB 133	"Checking the Net Contents of Packaged Goods"
AOCA	Automotive Oil Change Association	IEC	International Electrotechnical Association
API	American Petroleum Institute	ISO	International Organization for Standardization
ASTM	ASTM International	L&R	Laws and Regulations
ATC	Automatic Temperature Compensation	LNG	Liquefied Natural Gas
AUS	Aqueous Urea Solutions	MATG	Moisture Allowance Task Group
BOV	Bag on Valve	MAV	Maximum Allowable Variation
BTU	British Thermal Unit	MON	Motor Octane Number
CFR	Code of Federal Regulations	NAA	National Aerosol Association
CNG	Compressed Natural Gas	NADA	National Automobile Dealers Association
CPSC	Consumer Product Safety Committee	NGSC	Natural Gas Steering Committee
CRC	Coordinating Research Council	NCWM	National Conference on Weights and Measures
CWMA	Central Weights and Measures Association	NEWMA	Northeastern Weights and Measures Association
DEF	Diesel Exhaust Fluid	NIST	National Institute of Standards and Technology
DGE	Diesel Gallon Equivalent	OEM	Original Equipment Manufacturer
DLE	Diesel Liter Equivalent	OWM	Office of Weights and Measures
DOE	Department of Energy	PALS	Packaging and Labeling Subcommittee
EPA	Environmental Protection Agency	RON	Research Octane Number
FALS	Fuels and Lubricants Subcommittee	S&T	Specifications and Tolerances
FDA	Food and Drug Administration	SAE	Society of Automotive Engineers
FPI	Foodservice Packaging Industry	SWMA	Southern Weights and Measures
FPLA	Fair Packaging and Labeling Act	TG	Task Group
FTC	Federal Trade Commission	UPLR	Uniform Packaging and Labeling Regulation
GGE	Gasoline Gallon Equivalent	UWML	Uniform Weights and Measures Law
GLE	Gasoline Liter Equivalent	USNWG	U.S. National Work Group
GM	General Motors	WWMA	Western Weights and Measures Assoc.

Details of All Items
(In order by Reference Key)

231 NIST HANDBOOK 130 – UNIFORM PACKAGING AND LABELING REGULATION

231-1 D Sections 6.4., 6.5., 6.7., 6.8.1., 6.8.2., 6.9., and 10.8. Addition of Tables

Source:
NCWM Packaging and Labeling Subcommittee (2014)

Purpose:
Add tables to Handbook 130 to help clarify requirements.

Item Under Consideration:
Amend NIST Handbook 130, Uniform Packaging and Labeling Regulation as follows:

6.4. Terms: Weight, Measure, Volume, or Count. – The declaration of the quantity of a particular commodity shall be expressed in terms of:

(a) weight if the commodity is solid, semisolid, viscous, or a mixture of solid and liquid;

(b) volume measure if the commodity is liquid or dry, if the commodity is dry;

(c) linear measure or area; or

(d) numerical count.

Table 6.4. Weight, Measure, Volume, or Count	
If the commodity is:	**The declaration of quantity shall be expressed in:**
(a) solid, semisolid, viscous or a mixture of solid and liquid	**weight (mass)**
(b) liquid or dry	**fluid measure if fluid. dry measures if dry.**
(c) linear or area	**linear measure or area**
(d) individual units	**numerical count**
Items referenced in the table with a ( ) refers to text in the section indicated with the like identifier.	

However, if there exists a firmly established general consumer usage and trade custom with respect to the terms used in expressing a declaration of quantity of a particular commodity, such a declaration of quantity may be expressed in its traditional terms, provided such traditional declaration gives accurate and adequate information as to the quantity of the commodity. Any net content statement that does not permit price and quantity comparisons is forbidden.
(Amended 1989 **and 20XX**)

6.5. SI Units: Mass, Measure. [*NOTE 3*, page 64] – A declaration of quantity:

(a) in units of mass shall be the kilogram, gram, or milligram;

(b) in units of liquid measure shall be 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 must be maintained in the refrigerated state, for which the declaration shall express the volume at 4 °C;

(Amended 1985 and 1990)

(c) in units of linear measure shall be the meter, centimeter, or millimeter;

(d) in units of area measure shall be the square meter, square decimeters, square centimeter, or square millimeter;

(e) in units of volume other than liquid measure shall be the liter and milliliter, except that the units cubic meter and cubic centimeter shall be used only when specifically designated as a method of sale;

(f) Rule of 1000. – The selected multiple or submultiple prefixes for SI units shall result in numerical values between 1 and 1000. This rule allows centimeters or millimeters to be used where a length declaration is less than 100 centimeters.

Examples:
500 g, not 0.5 kg;
1.96 kg, not 1960 g;
750 mL, not 0.75 L; or
750 mm or 75 cm, not 0.75 m.

(Added 1993)

(g) SI declarations should be shown in three digits except where the quantity is below 100 grams, milliliters, centimeters, square centimeters, or cubic centimeters, where it may be shown in two digits. In either case, any final zero appearing to the right of the decimal point need not be shown; and

(Added 1993)

(h) the declaration of net quantity of contents shall not be expressed in mixed units.

Example:
1.5 kg, not 1 kg 500 g.

(Added 1993)

Table 6.5. SI Units: Mass, Measure	
If a declaration of quantity is by:	**Then shall be labeled in terms of:**
(a) mass	**milligram or gram or kilogram**
(b) liquid	**in units of liquid measure shall be 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 must be maintained in the refrigerated state, for which the declaration shall express the volume at 4 °C**
(c) linear measure	**Millimeter, centimeter, or meter**
(d) area measure	**square millimeter, square centimeter, square decimeter, or square meter**
(e) dry measure	**milliliter or liter except that cubic decimeter or cubic meter may be used if required by a method of sale regulation**
(f) Rule of 1000	**between 1 and 1000, except that cm or mm may be used below 100 cm (e.g., 500 g not 0.5 kg; 750 mL not 0.75 L)**
(g) Digits	**should be in 3 digits but if less than 100 g, mL, cm, sq m, cubic cm should be in 2 digits**
(h) Mixed Units	**1.85 kg not 1 kg 950 g – mixing of units prohibited**
Items referenced in the table with a ( ) refers to text in the section indicated with the like identifier.	

6.7. ~~Inch-Pound Units~~ Customary Units: Weight, Measure. – A declaration of quantity:

(a) in units of weight shall be in terms of the avoirdupois pound or ounce;

(b) in units of liquid measure shall be in terms of the United States gallon of 231 in^3 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 and 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 must be maintained 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 and 1990)

(c) in units of linear measure shall be in terms of the yard, foot, or inch;

(d) in units of area measure shall be in terms of the square yard, square foot, or square inch;

(e) in units of volume measure shall be in terms of the cubic yard, cubic foot, or cubic inch; and

(f) in units of dry measure shall be in terms of the United States bushel of 2150.42 in^3, or peck, dry quart, and dry pint subdivisions of the bushel.

Table 6.7. **~~Inch-Pound~~ Customary Units: Weight, Measure**	
Declaration of quantity if:	**Then it shall be labeled in terms of:**
(a) weight	**avoirdupois pound or ounce**
(b) liquid	**fluid ounce, pint, quart, or gallon (231 cubic inches) at 68 °F except for:** **1. petroleum and distilled spirits at 60 °F** **2. frozen commodities at frozen temperature** **3. refrigerated beverages at 40 °F** **4. malt beverages at 39.1 °F**
(c) linear measure	**inch, foot, yard**
(d) area measure	**square inch, square foot, square yard**
(e) volume	**cubic inch, cubic foot, cubic yard (unless another unit required by method sale regulation such as a "cord" for firewood")**
(f) dry measure	**dry pint, dry quart, peck, U.S. bushel (2150.42 cubic inches)**
All of the quantities shown above may be expressed in common fractions or decimal fractions of the largest unit to no more than three decimal places (e.g., 2.542 lb but not 2.5423 lb).	
Items referenced in the table with a ( ) refers to text in the section indicated with the like identifier.	

6.8. Prescribed Units, ~~Inch-pound~~ Customary Units System.

6.8.1. Less than 1 foot, 1 square foot, 1 pound, or 1 pint. – The declaration of quantity shall be expressed in the following terms:

(a) in the case of length measure of less than 1 ft, in inches and fractions of inches;

(b) in the case of area measure of less than 1 ft^2, in square inches and fractions of square inches;

(c) in the case of weight of less than 1 lb, in ounces and fractions of ounces; and

(d) in the case of liquid measure of less than 1 pt, in fluid ounces and fractions of fluid ounces, provided, the quantity declaration appearing on a random package may be expressed in terms of decimal fractions of the largest appropriate unit, the fraction being carried out to not more than three decimal places.

(Amended 1984)

Table 6.8.1. Less than 1 foot, 1 square foot, 1 pound or 1 pint	
If a declaration of quantity LESS than ONE:	**It shall be labeled in terms of:**
(a) foot	**inches or fraction of inches**
(b) square foot	**square inches or fraction of square inches**
(c) pound	**ounces or fractions of ounces**
(d) pint	**fluid ounces and fraction of fluid ounces**
All of the quantities shown above may be expressed in common fractions or decimal fractions of the largest unit. Random packages may be labelled to no more than three decimal places.	
Items referenced in the table with a ( ) refers to text in the section indicated with the like identifier.	

6.8.2. One Foot, 1 Square Foot, 1 Pound, 1 Pint, 1 Gallon, or More. – The declaration of quantity shall be expressed in the following terms (see Section 6.2. Largest Whole Unit and Section 6.11. Fractions):

(a) **Linear Measure.** – If 1 ft or more, expressed in terms of the largest whole unit (a yard or a foot) with any remainder expressed in inches and fractions of the inch or in fractions of the foot or yard, except that it shall be optional to include a statement of length in terms of inches.

(b) **Area Measure.**

(1) If 1 ft^2 or more, but less than 4 ft^2, expressed in square feet with any remainder expressed in square inches and fractions of a square inch or in fractions of a square foot; and

(2) If 4 ft^2 or more, expressed in terms of the largest whole unit (e.g., square yards or square feet) with any remainder expressed in square inches and fractions of a square inch or in fractions of the square foot or square yard.

(c) **Weight.** – If 1 lb or more, expressed in terms of the largest whole unit with any remainder expressed in ounces and fractions of an ounce or in fractions of the pound.

(d) **Liquid Volume.**

(1) If 1 pt or more, but less than 1 gal, expressed in the largest whole unit (quarts, quarts and pints, or pints, as appropriate) with any remainder expressed in fluid ounces or fractions of the pint or quart, except that 2 qt may be declared as ½ gal, and it shall be optional to include an additional expression of net quantity in fluid ounces; or

(2) If 1 gal or more, expressed in terms of the largest whole unit (gallons followed by fractions of a gallon or by the next smaller whole unit or units [for example, quarts and pints]) with any remainder expressed in fluid ounces or fractions of the pint or quart, except that it shall be optional to include an additional expression of net quantity in fluid ounces.

(e) **Dry Measure.** – If 1 dry pt or more, expressed in terms of the largest whole unit with the remainder expressed in fractions of a dry pint, dry quart, peck, or bushel, provided the quantity declaration on a

random package may be expressed in decimal fractions of the largest appropriate unit carried out to not more than three decimal places.

(Amended 1993)

Table 6.8.2. One Foot, 1 Square Foot, 1 Pound, 1 Pint, 1 Gallon, or More	
If a declaration of quantity is:	**Then it should be labeled in terms of the largest whole units in:**
(a) linear measure: 1 foot or more	**yards or feet with remainder in inches and fractions of an inch, or in fraction of the foot or yard. Optional declaration of inches is permitted**
(b) area measure: (1) 1 square foot or more but less than 4 square feet	**square feet with remainder in square inches or square feet or in fractions of these units**
(2) 4 square feet or more	**square yards or square feet with remainder in square inches or square feet or in fractions of these units (inches, sq ft, sq yd).**
(c) weight: 1 pound or more	**pounds with remainder in ounces or in fractions of an ounce or pound (e.g., "2 lb 7 ¾ oz" or "1.75 lb")**
(d) liquid measure: (1) 1 pint or more but less than 1 gallon	**quarts, quarts and pints, pints with remainder in fluid ounces or fractions of the pint or quart (2 qt may be ½ gal). Optional declaration of fluid ounces is permitted**
(2) 1 gallon or more	**gallons followed by fractions of a gallon or next smaller whole unit such as quarts or pints. Optional declaration of fluid ounces**
(e) dry measure: 1 dry pint or more	**dry pint, dry quart, peck or bushel with remainder in fractions of those units**
Items referenced in the table with a ( ) refers to text in the section indicated with the like identifier.	

6.9. Bi-dimensional Commodities. – For bi-dimensional commodities (including roll-type commodities) the quantity declaration shall be expressed in both SI and ~~**inch-pound**~~ **customary** units of measurement as follows:

(a) if the area is less than 929 cm^2 (1 ft^2), in terms of length and width (expressed in the largest whole unit for SI and in linear inches and fractions of linear inches for ~~**inch-pound**~~ **customary units**);

Example:
20.3 cm × 25.4 cm (8 in × 10 in);

(b) if the area is at least 929 cm^2 (1 ft^2), but less than 37.1 dm^2 (4 ft^2), in terms of area (expressed in the largest whole unit for SI and in square inches for ~~**inch-pound**~~ **customary units**), followed by a declaration of the length and width in terms of the largest whole unit:

Example:
31 dm^2 (49 cm × 64 cm) 3.36 ft^2 (1.6 ft × 2.1 ft), provided:

(1) bi-dimensional commodities having a width of 10 cm (4 in) or less, the declaration of net quantity shall be expressed in terms of width and length in linear measure; no declaration of area is required;

(2) an ~~**inch-pound**~~ **customary** unit dimension of less than 2 ft may be stated in inches;

(3) commodities consisting of usable individual units (e.g., paper napkins) require a declaration of unit area but not a declaration of total area of all such units (except roll-type commodities with individual usable units created by perforations, for which see Section 6.10. Count: Ply); and

(4) ~~**inch-pound**~~ **customary** unit declarations may include after the statement of the linear dimensions in the largest whole unit a parenthetical declaration of the same dimensions in inches.

Example:
25 ft^2 (12 in×8.33 yd) (12 in × 300 in).

Table 6.9.(a.)(b.)
Bi-Dimensional Commodities

If a declaration of quantity is:	Then it shall be in largest whole units of customary units and SI units of:	Units Expressed In: (See also Sections 6.6. Prescribed Units, SI and 6.8. Prescribed Units, ~~Inch-Pound~~ Customary System Fractions are Permitted.)
(a) area less than 929 cm^2 (2 ft^2)	length and width for example, 20.3 cm × 25.4 cm (8 in x 10 in)	mm, cm, or in
(b) an area of 929 cm^2 (1 ft^2) up to 37.2 dm^2 (4ft^2)	area, length and width for example, 31 dm^2 (40 × 64 cm) 3.36 ft^2 (1.6 ft × 2.1 ft)	area: sq cm or dm and sq in or ft linear: mm or cm and in or ft
(1) a width of 10 cm (4 in) or less	length and width but NOT area	mm, cm or m and in, ft or yd
(2) for a length or width dimension less than 2 ft	the inch-pound statement may be in inches	mm, cm, in
(3) on packages of individual units (e.g., napkins). See Section 6.10. Count: Ply for perforated roll type products (e.g., paper towels and toilet paper).	unit area but not the total area of all units	area: sq, com, dm, m, and sq in, ft, or yd linear: mm, cm, m or in, ft, or yd
(4) any customary unit declarations	a statement of inches may be provided in addition to largest whole unit e.g. 25 ft^2 (12 in × 8.33 yd) (12 in × 300 in)	inches
Items referenced in the table with a ( ) refers to text in the section indicated with the like identifier.		

(c) if the area is 37.1 dm^2 (4 ft^2) or more, in terms of area (expressed in the largest whole unit for SI and in square feet for inch-pound), followed by a declaration of the length and width, in terms of the largest whole unit, provided:

(1) no declaration of area is required for a bi-dimensional commodity with a width of 10 cm (4 in) or less;

(2) bi-dimensional commodities with a width of 10 cm (4 in) or less, the inch-pound statement of width shall be expressed in terms of linear inches and fractions thereof, and length shall be expressed in the largest whole unit (yard or foot) with any remainder in terms of fractions of the yard or foot, except that it shall be optional to express the length in the largest whole unit followed by a statement of length in inches or to express the length in inches followed by a statement of length in the largest whole unit;

Examples:
5 cm × 9.14 m (2 in × 10 yd); or
5 cm × 9.14 m (2 in × 10 yd) (360 in); or
5 cm × 9.14 m (2 in × 360 in) (10 yd).

(3) a customary unit dimension of less than 2 ft may be stated in inches; and

(d) no declaration of area is required for commodities for which the length and width measurements are critical in terms of end use (such as wallpaper border) if such commodities clearly present the length and width measurements on the label.

Table 6.9.(c.)(d.)
Bi-Dimensional Commodities (including roll type packages)

If a declaration of quantity is:	**Then it shall be in largest whole units with statements in customary units and SI units of:**	**Units Expressed in: See also Sections 6.6. Prescribed Units, SI and 6.8. Prescribed Units, Customary System (fractions permitted).**
(c) for area of 37.1 dm² (4 ft²) or more (see 1, 2, and 3 below)	**area, length, and width**	**area: sq dm or sq cm and sq ft. Linear: mm or cm and in, ft or yd**
(1) and (2) for a width of 10 cm (4 in) or less	**width and length but NOT area** **Examples:** **5 cm x 9.14 m (2 in × 10 yd), or** **5 cm x 9.14 m (2 in × 10 yd) (360 in), or** **5 cm x 9.14 m (2 in × 360 in) (10 yd)**	**linear:** **mm, cm or m** **inch-pound: width in inches** **length:** **ft or yd and may include inches**
(3) For length or width dimensions less than 2 ft	**~~inch-pound~~ customary units statement may be in inches**	**inches**
(d) on packages where length and width are critical for end use (e.g., wallpaper and borders)	**width and length but NOT area**	**mm, cm or m and in, ft or yd**
Items referenced in the table with a ( ) refers to text in the section indicated with the like identifier.		

Background/Discussion:
The tables were developed from a PowerPoint presentation provided at a NIST Packaging and Labeling Class for industry and regulators. Attendees found the tables to be an excellent reference material as they were challenged to evaluate various packaged commodities for compliance with the Uniform Packaging and Labeling Regulation.

The addition of tables to NIST Handbook 130 would be useful to industry and regulators in interpreting requirements. No revisions of current requirements would be necessary. Marketing and art departments, amongst others, are challenged with developing the packaging and labeling for products being distributed by their companies

or clients, and individuals in those professions would find it helpful to have the additional examples provided in the tables for reference.

Several other tables are already provided in NIST Handbook 130, and these new tables are viewed as being equally helpful. For example, in NIST Handbook 130 (2014), Table 1. Rounding Rules on page 98 describes rounding rules and Table 2. Examples on page 100 assist with conversions.

2014 NCWM Interim Meeting: It was mentioned that there are numerous technical errors and typographical errors within the submitted charts. The subsections in the tables do not coincide with the language printed within NIST Handbook 130. During Committee worked session, it was mentioned that developing tables for items within the NIST handbooks could set precedence for all items to have a table. NIST commented that they do provide a publication, NIST SP 1020 Series, *Consumer Packaging Labeling Guides*. The NIST SP 1020 Guides are quite popular and extremely user-friendly. The Committee would like to have feedback from the Regions on this item. They also requested the PALS (original submitter) correct the tables to align with the language as it appears with the handbook.

Regional Association Comments:
CWMA's L&R Committee believes the revisions would improve the use of NIST Handbook 130 and provide clearer understanding by users. CWMA forwarded the item to NCWM, recommending it as a Voting item. At the 2014 CWMA Meeting, no comments were heard during the L&R Committee Open Hearings. CWMA believes the item has merit, but agrees that the PALS needs to further develop the item.

WWMA received an explanation from a NIST Technical Advisor that the tables were used to help explain the requirement of the UPLR as a teaching aid in its April 2013 seminar, which was open to industry. Industry saw great value and expressed how these tables were helpful and user friendly, indicating compliance could be increased if tables were added the Handbook. There is no change to existing language in the UPLR, it is only taking existing language and putting it in a more readable table format. The tables are supplemental and not intended to replace what currently exists. The PALS Chairman added that the intent is to be content neutral, noting that putting information in table format is more user-friendly. A regulatory official agreed that tables are helpful and easier to follow. WWMA forwarded this item to NCWM and recommended it as a Voting item.

NEWMA: At the 2014 Interim Meeting, the Committee forwarded this item to NCWM recommending it as a Voting item. During the 2014 NEWMA Annual Meeting, no comments were received, and it was recommended the item continue as a Developing item.

SWMA forwarded the item to NCWM recommending it as a Voting item as it is intended to make the requirements easier to understand with the table format added but will not change any of the requirements.

231-2 V Section 10.3. Aerosols and Self-Pressurized Containers

(This item was Adopted.)

Source:
Commonwealth of Massachusetts Division of Standards (2012)

Purpose:
To allow for a quantity statement in terms of weight for packages utilizing the Bag on Valve (BOV) technology; where the propellant is not expelled when the valve is activated. NIST Handbook 130, Section 10.3. Aerosols and Similar Pressurized Containers require aerosols and similar pressurized containers that expel the propellant along with the product to disclose the net quantity in terms of weight.

Item Under Consideration:
Amend NIST Handbook 130, Uniform Packaging and Labeling Regulation as follows:

10.3. Aerosols and ~~Similar~~ Other Pre-Pressurized Containers Dispensing Product Under Pressure. – The declaration of quantity on an aerosol and on ~~a similar~~ **other pre-**pressurized **containers dispensing products**

under pressure ~~**package**~~ shall disclose the net quantity of the commodity (including propellant**, where applicable**)~~,~~ in terms of weight~~,~~ that will be expelled when the instructions for use as shown on the container are followed.

Note: Enforceable on packages using bag-on-valve (BOV) technology after January 1, 2018. (Amended 2014)

Background/Discussion:
There are a number of products in the marketplace bearing quantity statements in terms of fluid measure that utilize the BOV technology. Packages using BOV technology are non-aerosol by definition because the propellant is not dispensed with the product. Consumers cannot do price and quantity comparison between product packaged using BOV technology and similar product in aerosol packaging because the aerosol packaged product includes the propellant in the net weight and the propellant is dispensed with the product. In the example below, two similar products are pictured, however the one on the left is labeled by net weight, and the one on the right is labeled by liquid measure.

BOV technology is environmentally friendlier because the propellant is not dispensed with the product. Products utilizing the BOV technology only expel the product as the product is contained in a bag which is surrounded by the propellant inside the container. In April 2011, NIST, OWM received a letter supporting labeling of certain products such as the "Pure Citrus" product pictured (left) by liquid measure.

2012 NCWM Interim Meeting: The Committee reviewed several letters from different manufacturers that use BOV technology recommending liquid volume as the appropriate method of sale for products in BOV style packaging. Concern was expressed that consumers would not be able to make value comparisons if similar items had different units of measure.

Mr. Van Slyke (Lock Lord Bissell & Liddell LLP/Blue Magic, Inc.) provided a presentation indicating that they believe BOV does not fall under the aerosol guidelines. The reasoning is that a BOV container does not expel propellant with the product; therefore, it inherently has less net weight. They believe that consumers do not have sufficient information to know differences between aerosols and BOV products. Mr. Van Slyke recommended two solutions amending the UPLR language as follows:

10.3. Aerosols and Similar Pressurized Containers. – The declaration of quantity on an aerosol package and on a similar pressurized package shall disclose the net quantity of the commodity (including propellant), in terms of weight, that will be expelled when the instructions for use as shown on the container are followed**, provided however that containers that separate propellant from the expelled product so that propellant is not expelled (such as containers using bag-on-valve technology) may be labeled either with weight or volume of the quantity of the commodity that will be expelled.**

or

10.3. Aerosols and Similar Pressurized Containers. – The declaration of quantity on an aerosol package and on a similar pressurized package shall disclose the net quantity of the commodity (including propellant), in terms of weight, that will be expelled when the instructions for use as shown on the container are followed.

10.3.1. Containers that separate propellant from the expelled product so that the propellant is not expelled (such as containers using bag-on-valve technology) shall be prominently labeled NON-AEROSOL. The declaration of quantity shall disclose the net quantity of the commodity in terms of fluid measure.

Mr. Douglas Raymond (National Aerosol Association [NAA]) gave a presentation reporting the association's position that a container using BOV technology is an aerosol, and its net quantity needs to be declared in terms of net weight. He remarked that BOV has been around for twenty plus years and is not new to the marketplace. Various products are packaged using the BOV technology (e.g., sunscreen, wound washes, shaving cream, and car products). Different aerosol forms use liquid gas, compressed gases, and in barrier forms using Sepro, bladder, and BOV. Mr. Raymond also stated that BOV and non-BOV products are designed to expel their products equally. He stated that classifying a BOV container as a non-aerosol is misleading and a safety concern since this product is pressurized.

A regulatory official agreed that BOV containers should be labeled and tested by net weight. He remarked that test procedures need to be clarified for BOV containers. For example, should the bag be removed from the canister to recover the product?

Concern was also expressed that consumers would be confused if they encountered similar products with different unit pricing and, if the products contents are labeled differently. The BOV proposal that was represented during the 2012 NCWM Interim Meeting was based upon the views of the room air fresheners industry only.

The Committee would like to have a better understanding of the variety and type of products in the marketplace and what is under current development. Clarification is needed for the term "similar products" for example, what products meet this classification as defined in NIST Handbook 130, UPLR, Section 10.3. Aerosols and Similar Pressurized Containers. The Committee is also requesting from NIST, OWM clarification on the definition of aerosol and a review for any updates to NIST Handbook 130, Interpretations and Guidelines, Section 2.2.7. Aerosol Packaged Products. The 2012 L&R Committee designated this as an Informational Item.

2013 NCWM Interim Meeting: The Committee received and reviewed several letters from BOV manufacturers. The letter from National Aerosol Association (NAA) contained draft language that proposes dual labeling for the method of sale on the product label. The Committee discussed that there is no applicable volumetric test procedure. It was stated that allowing two methods of sales is in opposition of the OIML TC 6 Committee on Prepackaged Products, which resolved that aerosols should be declared by weight. The Committee was in agreement that if industry could develop a test procedure they would readdress the issue. The Committee revised the item under consideration to include terminology to include "bag on valve." The Committee recommends this item be an Informational Item to allow time for manufacturers to provide feedback on the time frame for labeling to change over and to research a volumetric test procedure.

Mr. Hank Pickens (Beaumont) provided a presentation at the 2013 NCWM Annual Meeting describing the procedures and reasoning for BOV to be labeled by volumetric measure. Mr. Pickens opposes NAA's proposal for BOV to have a dual unit label. Douglas Raymond (National Aerosol Association [NAA]) is in support of a weight statement due to the challenge in testing this product. Mr. Raymond remarked that BOV products can be in liquid, paste, and powder forms. A NIST Technical Advisor remarked that a volumetric method of sale would be in conflict with federal law regardless of whether it is an aerosol or not. Mr. Sefcik (NIST, OWM) has agreed to host a meeting at NIST in Gaithersburg, Maryland, and bring interested federal agencies (i.e., FDA, FTC, and EPA) and stakeholders together. The Committee would like to see the outcome from this meeting.

2014 Interim Meeting: A NIST Technical Advisor provided a briefing from the NIST January 2014 meeting and there was unanimous agreement that weight shall be the required method of sale for all pressurized containers regardless of the technology. There was also agreement from all parties that an enforcement exemption be granted for three years to allow manufacturers to turn over their current stock of product. The Committee received several letters from aerosol and BOV manufacturers.

The Committee reviewed the language as it appeared in NCWM Publication 15 (2014) and made modifications as it appears in the item under consideration.

10.3. Aerosols and Similar Pressurized Containers. – The declaration of quantity on an aerosol **package including Bag on Valve (BOV) technology** and **other** similar pressurized package**s** shall disclose the net quantity of the commodity (including propellant), in terms of weight, that will be expelled when the instructions for use as shown on the container are followed.

Note: Packages that utilize the Bag on Valve (BOV) technology shall be enforceable after month/day/20XX.

(Amended 20XX)

2014 NCWM Annual Meeting: Modified language for the item under consideration was submitted by Mr. K. Floren (Los Angeles County). The Committee agreed to modify the language in its Interim Report to that shown in this Final Report in the item Under Consideration.

Regional Association Comments:
CWMA recommends the item remain informational to allow time to receive information from a meeting that is scheduled to be held at NIST in Gaithersburg, Maryland, after the NCWM Annual Meeting. This meeting will bring together interested federal agencies (i.e., FDA, FTC, and EPA) and stakeholders. Since 2012, CWMA has recommended the item remain Informational. NIST has been working with other agencies and organizations to determine that this regulation will not have conflicts. At the 2014 CWMA Meeting, it was agreed this language helps clarify that all self-pressurized containers are sold by weight and recommends this as a Voting item.

WWMA was informed by a NIST Technical Advisor remarked that a meeting is scheduled for January 9, 2014, at NIST, which will include representation from EPA, FTC, FDA, CPSC, industry regulators, and interested stakeholders. A report will be provided at the 2014 NCWM Interim Meeting. A regulatory official indicated that net weight is preferred as different products have varying volatility, which affects the testing procedure. An industry representative stated this is a competitive business issue and was concerned about the safety aspect of testing this product. The Committee recommended that this be an Informational item.

NEWMA heard a comment in 2011, that testing for content could be problematic and that marking on the package should be net weight of product only, not including propellant, which is not part of product. The Committee believed there is better comparison of net contents of product being sold if words “NON-AEROSOL PRODUCT” are added to product label. NEWMA forwarded the item to NCWM recommending it as a Voting item with the following revision: add to the container language “A NON-AEROSOL PRODUCT.” At the 2012 Annual Meeting there was discussion about a conflict between aerosols and bag on valve (BOV) products and their declaration of content in the marketplace. NEWMA recommended that the item remain as an Informational item. The same status was recommended during the 2012 NEWMA Interim and Annual Meetings. At the 2013 Interim Meeting, NEWMA attendees were informed that NIST, OWM will be hosting a meeting in January 2014, which will include federal regulatory agencies, stakeholders, and weights and measures regulators to discuss a method of sale. NEWMA would like to see the outcome of this meeting and recommended the item be an Informational item. During the 2014 NEWMA Annual Meeting, based on the results of the January 2014 meeting at NIST this item is fully developed and is recommending that it be a Voting item.

SWMA heard concern in 2011 by an industry weights and measures consultant over an acceptable test procedure that would be used if volume was permitted. The NIST Technical Advisor noted that no specific language has been proposed and that the UPLR Section 6.4., Terms: Weight, Measures, Volume, or Count declares that “any net content statement that does not permit price and quantity comparison is forbidden”. It was further noted that NIST Handbook 130, Section 10.3. Aerosols and Similar Pressurized Containers, applies to aerosols and similar pressurized containers. One manufacturer has provided input to this proposal. The National Aerosol Association (NAA) was contacted for input into this proposal. Preliminary comment by NAA was that BOV technology or versions of it have been around since the 1990s. The NAA Board of Directors member believes BOV technology is considered an aerosol, basing his opinion on a California Air Resources Board Regulation. The SWMA Committee requested that specific language be developed for this item and a complete response from the NAA. They also noted that test procedures will need to be discussed if a volume statement is to be considered. SWMA forwarded the item to NCWM recommending it as a Developing item.

In 2012, SWMA withheld comment until NAA offers proposed language at the 2013 NCWM Interim Meeting. SWMA recommended that the item be an Informational item. In 2013, SWMA recommended this item remain on the NCWM agenda as an Informational item, pending the outcome of a meeting being hosted by NIST in January 2014, on this issue.

Additional letters, presentations, and data may have been part of the Committee's consideration. To review the supporting documentation, please refer to the *Report of the 98th National Conference on Weights and Measures* (SP 1171, 2013).

232 NIST HANDBOOK 130 – UNIFORM REGULATION FOR THE METHOD OF SALE COMMODITIES

232-1 D Section 2.20.3. Street Sign Prices and Advertising

Source:
Retail Motor Fuel Dispenser Price Posting and Computing Capabilities Task Group (2014)

Purpose:
Ensure that consumers are not charged a higher price per gallon for motor fuel than what it advertised on a street sign.

Item under Consideration:
Amend NIST Handbook 130, Uniform Regulation for the Method of Sale of Commodities as follows:

2.20. 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 0.15 mass percent oxygen from 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 (½ in) in height, 1.5 mm ($^1/_{16}$ in) stroke (width of type).

(Amended 1996)

2.20.2. Documentation for Dispenser Labeling Purposes. – At the time of delivery of the fuel, the retailer shall be provided, on an invoice, bill of lading, shipping paper, or other documentation a declaration of the predominant oxygenate or combination of oxygenates present in concentrations sufficient to yield an oxygen content of at least 1.5 mass percent 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." In addition, any gasoline containing more than 0.15 mass percent oxygen from methanol shall be identified as "with" or "containing" methanol. This documentation is only for dispenser labeling purposes; it is the responsibility of any potential blender to determine the total oxygen content of the engine fuel before blending.

(Added 1984) (Amended 1985, 1986, 1991, and 1996)

2.20.3. Street Sign Prices and Advertising

(a) The unit price must be in terms of price per gallon in $^1/_{10}$ cents.

(b) When the price of fuel increases, the street sign must be changed before or simultaneous when the price at the pump is changed. When the price of fuel decreases, the price at the pump must be changed before or simultaneous when the street sign price is changed.

(Added 20XX)

Background/Discussion:
The consumer should never pay more for fuel than the advertised price. A street sign price posting that is lower than the price at the pump, could unfairly draw business from a competitor.

2014 NCWM Interim Meeting: The Committee heard from Mr. Hornbach (Chevron) who spoke in regards to electronic price signs that have the capability to change pumps and signs simultaneously. He recommends that the word "simultaneous" be added into the proposal. Ms. Elson-Houston (Chair of the Retail Motor Fuel Dispenser Price Posting and Computing Capabilities Task Group) concurs with this change. The Committee does not feel this item is developed enough and request that the Task Group (TG) ensure that all sections of the method of sale are addressed in regards to price posting, multi-tier and dual pricing with fuels. The Committee would like the regions to review and comment on this item. Ms. Elson-Houston informed the Committee that the Price Posting TG will be disbanding in July 2014. At the 2014 NCWM Annual Meeting, the Committee agreed this item had merit and recommended continued development by the submitter.

Regional Associations Comments:
This item was submitted directly to the Standing Committee from the NCWM Price Posting TG after the deadlines for submitting to the regional associations.

2014 NEWMA Annual Meeting: No comments were received and the recommendation was to maintain this item as Developing.

2014 CWMA Annual Meeting: An industry representative expressed concern over language requiring tenth-of-a-percent price posting; industry requests price posting to the whole cent; the same representative expressed concern that signs need to change "simultaneously," and suggested the word "concurrent" be substituted. A second industry representative stated that just because the technology is available, all retail stations do not necessarily have the newest equipment. A regulator stated the use of price per metric units should be recognized as well (i.e., liters). The Committee agreed that based on the comments provided, the item needs further development.

Additional letters, presentations, and data may have been part of the Committee's consideration. To review the supporting documentation, please refer to the *Report of the 98th National Conference on Weights and Measures* (SP 1171, 2013).

232-2 W Section 2.27. Retail Sales of Natural Gas Sold as a Vehicle Fuel

(This item was Withdrawn.)

Source:
Clean Vehicle Education Foundation (2013)

Purpose:
Enable consumers to make cost and fuel economy comparisons between diesel fuel and natural gas.

Item Under Consideration:
Amend NIST Handbook 130, Uniform Regulation for the Method of Sale of Commodities as follows:

2.27. Retail Sales of Natural Gas Sold as a Vehicle Fuel.

2.27.1. Definitions.

2.27.1.1. Compressed Natural Gas (CNG). – A gaseous fuel composed primarily of methane that is suitable for compression and dispensing into a fuel storage container(s) for use as an engine fuel.

2.27.1.2. Gasoline Liter Equivalent (GLE). – Gasoline liter equivalent (GLE) means 0.678 kg of **compressed** natural gas.

2.27.1.3. Gasoline Gallon Equivalent (GGE). – Gasoline gallon equivalent (GGE) means 2.567 kg (5.660 lb) of **compressed** natural gas.

2.27.1.4. Diesel Liter Equivalent (DLE). – means 0.756 kg of natural gas.

2.27.1.5. Diesel Gallon Equivalent (DGE). – means 2.894 kg (6.38 lb) of natural gas.

2.27.1.6. Liquefied Natural Gas (LNG). - A gaseous fuel composed primarily of methane that has had carbon dioxide removed and nitrogen reduced to 0.5 % by volume and is suitable for liquefaction at − 162 °C (− 259 °F) and dispensed into an insulated cryogenic fuel storage container(s) for use as an engine fuel.

2.27.1.7. Diesel Liter Equivalent (DLE). – Diesel liter equivalent means 0.7263 kg of liquefied natural gas.

2.27.1.8. Diesel Gallon Equivalent (DGE). – Diesel gallon equivalent means 2.749 kg (6.06 lb) of liquefied natural gas.

2.27.2. Method of Retail Sale and Dispenser Labeling.

2.27.2.1. Method of Retail Sale. – All **compressed** natural gas kept, offered, or exposed for sale and sold at retail as a vehicle fuel shall be in terms of ~~**the gasoline liter equivalent (GLE) or gasoline gallon equivalent (GGE).**~~**:**

(a) the gasoline liter equivalent (GLE) or gasoline gallon equivalent (GGE), or

(b) the diesel liter equivalent (DLE) or diesel gallon equivalent (DGE).

2.27.2.2. Dispenser Labeling. – All retail **compressed** natural gas dispensers shall be labeled with the conversion factor in terms of kilograms or pounds. The label shall be permanently and conspicuously displayed on the face of the dispenser and shall have ~~**either the statement "1 Gasoline Liter Equivalent (GLE) is equal to 0.678 kg of Natural Gas" or "1 Gasoline Gallon Equivalent (GGE) is equal to 5.660 lb of Natural Gas" consistent with the method of sale used.**~~**:**

(a) either the statement "1 Gasoline Liter Equivalent (GLE) is equal to 0.678 kg of Natural Gas" or "1 Gasoline Gallon Equivalent (GGE) is equal to 5.660 lb of Natural Gas" consistent with the method of sale used.

(b) either the statement "1 Diesel Liter Equivalent (DLE) is equal to 0.756 kg of Natural Gas" or "1 Diesel Gallon Equivalent (DGE) is equal to 6.312 lb of Natural Gas" consistent with the method of sale used.

2.27.2.3. Method of Retail Sale. – All liquefied natural gas kept, offered, or exposed for sale and sold at retail as a vehicle fuel shall be in terms of diesel liter equivalent (DLE) or diesel gallon equivalent (DGE).

2.27.2.4. Dispenser Labeling. – All retail liquefied natural gas dispensers shall be labeled with the conversion factor in terms of kilograms or pounds. The label shall be permanently and conspicuously displayed on the face of the dispenser and shall have the statement "1 Diesel Liter

Equivalent (DLE) is equal to 0.7263 kg of Natural Gas" or "1 Diesel Gallon Equivalent (DGE) is equal to 6.06 lb of Natural Gas" consistent with the method of sale used.

Background/Discussion:
The gasoline gallon equivalent (GGE) unit was defined by NCWM in 1994 (refer to Appendix A) to allow users of natural gas vehicles to readily compare costs and fuel economy of light-duty natural gas vehicles with equivalent gasoline powered vehicles. For the medium and heavy duty natural gas vehicles in widespread use today, there is a need to officially define a unit (already in widespread use) allowing a comparison of cost and fuel economy with diesel powered vehicles. Natural gas is sold as a vehicle fuel as either compressed natural gas (CNG) or liquefied natural gas (LNG) and each method of sale is measured in mass. Therefore, the generic term natural gas is proposed to be used in NIST Handbooks 44 and 130 without the existing term "compressed." (The mathematics justifying the specific quantity (mass) of natural gas in a DLE and DGE is included in Appendix A.)

The official definition of a DLE and a DGE will likely provide justification for California, Wisconsin, and other states to permit retail sales of LNG for heavy-duty vehicles in these convenient units.

Additional Contacts: Clean Energy, Seal Beach, California, NGV America, Washington, DC, Clean Vehicle Education Foundation, Acworth, Georgia.

2013 NCWM Interim Meeting: A presentation in support of this item was given by Mr. Doug Horne (Clean Vehicle Education Foundation). Several comments were heard regarding the references and databases used to develop the calculations. Concern was expressed with the conversion factors used. Concern was also expressed that the LNG method of sale should be by weight. A NIST, OWM S&T Technical Advisor recommends that L&R and S&T work in a joint session since there is a companion Item 337-1, NIST Handbook 44, "Specifications, Tolerances and Other Technical Requirements for Weighing and Measuring Devices," Appendix D – Definitions: Diesel Liter and Diesel Gallon Equivalents (DLE, DGE), on the S&T Agenda. A collaborative effort between the two Committees will ensure that the proposed equivalent unit is dispensed accurately at the dispenser. Several attendees spoke in support of the collaborative effort. The Committee will request that the NCWM Board of Directors create a Steering Committee that consists of experts and stakeholders to review this proposal. L&R will prepare a list of comments that they would like the Steering Committee to review and address. The L&R Committee recommends this as Informational item.

At the 2013 NCWM Annual Meeting, the Committee was informed that the Natural Gas Steering Committee chaired by Mahesh Albuquerque would be reviewing this item.

At the 2014 NCWM Interim Meeting Mr. Albuquerque (Chair, National Gas Steering Committee) notified the Committee this item was being withdrawn in its entirety. The submitter of this proposal sent in a modified proposal (Item 232-3) on this subject matter that will be further developed by the Steering Committee. The Committee did note that the factor in Section 2.27.1.6. Liquefied Natural Gas should not read − 126.1 °C, but rather – 162 °C. This item was wWithdrawn in its entirety.

Regional Association Comments:
CWMA reported that based on the comments received from a majority of states, the Committee does not recommend the proposal as written. Since 2012, regulators from the central region have expressed concerns that LNG and CNG are being sold and there is no standard established through the NCWM process for sales of these products. Establishment of a standard is urgently needed. During the 2013 CWMA Annual Meeting, an industry representative stated that creating an equivalence factor with gallon equivalents was not a weights and measures issue, and some regulators agreed. A NIST representative stated that using equivalence would not allow traceability back to the International System of Units (SI). CWMA recommended the item be withdrawn at the 2013 Annual Meeting. The CWMA recommends the status of this item be Developing at the September 2013 Interim Meeting.

WWMA recognized that Item 232-2 on their agenda is being proposed by submitter to replace this item. Mr. John Wasberg (BLU) and Mr. Michael Eaves (Clean Energy) provided presentations on LNG. Some regulatory officials supported mass as the appropriate method of sale, noting it is based on a traceable standard and there are two alternative methods of sale (hydrogen and electricity) recently adopted by NCWM without using equivalents. Concern was expressed regarding whether it was weights and measures responsibility to verify the conversion factor

and questioned whether the conversion factor would remain constant over time. Mr. Albuquerque, Chairman of the Natural Gas Steering Committee, stated they will continue to meet and consider all related issues and hope to have the item developed for the 2014 NCWM Interim Meeting. A regulatory official noted tax implications, equipment that converts mass to gallon equivalents, and a possible phase in period. WWMA recommended that this item be a Developing item.

NEWMA reviewed the CWMA comments from 2012. A General Motors representative indicated, at that time, there was discussion on a point of reference. A remark pointed out both methods of labeling may be required on a dispenser. The labeling issue may create confusion for the consumer. NEWMA recommended review by the FALS. NEWMA forwarded the item to NCWM L&R Committee recommending it as an Informational item. In 2013, Graham Barker (Clean Vehicle Education Foundation) presented comments in support for this item due to there being no standards for DGE and LNG, and standards are needed for GGE and DGE. Comments were made that definitions do not need to be in the handbook as consumers and fleet managers can research and make informed decisions. The Committee recommends keeping this as an Informational item, and they would like to see a recommendation from the Natural Gas Steering Committee. The Committee should also look at the original 1994 decision on gas equivalent as part of its focus to determine if it should remain in the handbook. NEWMA recommends that this item be an Informational item.

SWMA received a recommendation at their 2012 Annual Meeting from an industry representative that this be designated as Developing item. A regulatory official questioned why industry is not installing the right equipment rather than putting a label on a nozzle. The Committee recommended that this item be reviewed by FALS, in part to check the accuracy of the diesel conversion. The Committee also suggested that the 1994 standard for the GGE be reviewed. SWMA forwarded the item to NCWM, recommending it as an Informational item. At the 2013 SWMA Annual Meeting the majority of regulators spoke in favor of mass being the method of sale but that some states have already recognized the DGE. The Committee received letters supporting the DGE and DLE as the preferred method of sale. A regulator stated they would not support multiple methods of sale. A member asks that all of the conversions factors be a reviewed for accuracy, so everyone can understand what is being debated. Both the S&T and L&R met in joint session to discuss the comments heard and how the two Committees should proceed forward in tandem with this issue. The Committees received a handout from Mr. Brett Barry (Clean Energy) summarizing Natural Gas Vehicle Fuel DGE proposal.

Additional letters, presentations, and data may have been part of the Committee's consideration. To review the supporting documentation, please refer to the *Report of the 98th National Conference on Weights and Measures* (SP 1171, 2013).

232-3 V Section 2.27. Retail Sales of Natural Gas Sold as a Vehicle Fuel

(This item was returned to Committee.)

Source:
Clean Vehicle Education Foundation (2014)

Purpose:
Since natural gas is sold in the retail market place as compressed natural gas (CNG) to be an alternative fuel to gasoline and diesel fuel and as liquefied natural gas (LNG) to be an alternative fuel to diesel, the proposed additions and edits to NIST Handbook 130 will provide definitions for natural gas equivalents for diesel liters and diesel gallons so that end users can readily compare cost and fuel economy. At present, only CNG equivalents for gasoline are included in the handbooks.

Item under Consideration:
Amend the NIST Handbook 130, Method of Sale Regulation as follows:

2.27. Retail Sales of Natural Gas Sold as a Vehicle Fuel.

2.27.1. Definitions.

2.27.1.1. Compressed Natural Gas (CNG). – A gaseous fuel composed primarily of methane that is suitable for compression and dispensing into a fuel storage container(s) for use as an engine fuel.**2.27.1.2. Gasoline Liter Equivalent (GLE).** – Gasoline liter equivalent (GLE) means 0.678 kg **(1.495 lb)** of **compressed** natural gas.

2.27.1.3. Gasoline Gallon Equivalent (GGE). – Gasoline gallon equivalent (GGE) means 2.567 kg **(5.660 lb)** of **compressed** natural gas.

2.27.1.4. Diesel Liter Equivalent (DLE). – Diesel liter equivalent means 0.765 kg of compressed natural gas or 0.726 kg of liquefied natural gas.

2.27.1.5. Diesel Gallon Equivalent (DGE). – Diesel gallon equivalent means 6.384 lb of compressed natural gas or 6.059 lb of liquefied natural gas.

2.27.1.6. Liquefied Natural Gas (LNG). – Natural gas which is predominantly methane that has been − 162 °C (− 260 °F) at 14.696 PSIA and stored in insulated cryogenic fuel storage tanks for use as an engine fuel.

2.27.2. Method of Retail Sale and Dispenser Labeling.

2.27.2.1. Method of Retail Sale. – All **compressed** natural gas kept, offered, or exposed for sale and sold at retail as a vehicle fuel shall be **measured** in terms of **mass, and indicated in** the gasoline liter equivalent (GLE)**, ~~or~~** gasoline gallon equivalent (GGE) **diesel liter equivalent (DLE), or diesel gallon equivalent (DGE) units.**

2.27.2.2. Dispenser Labeling Compressed Natural Gas. – All retail **compressed** natural gas dispensers shall be labeled with the **equivalent** conversion factor in terms of kilograms or pounds. The label shall be permanently and conspicuously displayed on the face of the dispenser and shall have either the statement "1 Gasoline Liter Equivalent (GLE) is **Approximately** equal to 0.678 kg of Natural Gas" **and "1 Diesel Liter Equivalent (DLE) is Approximately equal to 0.765 kg of Compressed Natural Gas"** or **the statements** "1 Gasoline Gallon Equivalent (GGE) is **Approximately** equal to 5.660 lb of **Compressed** Natural Gas" **and "1 Diesel Gallon Equivalent (DGE) is Approximately Equal to 6.384 lb of Compressed Natural Gas"** consistent with the method of sale used.

2.27.2.3. Method of Retail Sale. – All liquefied natural gas kept, offered, or exposed for sale and sold at retail as a vehicle fuel shall be measured in mass, and indicated in diesel liter equivalent (DLE) or diesel gallon equivalent (DGE) units.

2.27.2.4. Dispenser Labeling of Retail Liquefied Natural Gas. – All retail liquefied natural gas dispensers shall be labeled with the equivalent conversion factor in terms of kilograms or pounds. The label shall be permanently and conspicuously displayed on the face of the dispenser and shall have either the statement "1 Diesel Liter Equivalent (DLE) is Approximately equal to 0.726 kg of Liquefied Natural Gas" or "1 Diesel Gallon Equivalent (DGE) is Approximately equal to 6.059 lb of Liquefied Natural Gas" consistent with the method of sale used.

Background/Discussion:
The gasoline gallon equivalent (GGE) unit was defined by NCWM in 1994 (refer to Appendix A) to allow users of compressed natural gas (CNG) vehicles to readily compare costs and fuel economy of light-duty natural gas vehicles with equivalent gasoline powered vehicles. For the medium and heavy duty natural gas vehicles in widespread use today, there is a need to officially define a unit for both CNG and LNG (already in widespread use) allowing a comparison of cost and fuel economy with diesel powered vehicles. Natural gas is sold as a vehicle fuel as either (CNG or LNG and each method of sale is measured in mass. The submitter stated that the official definition of a DLE and a DGE will likely provide justification for California, Wisconsin and many other states to permit retail

sales of LNG for heavy-duty vehicles in these convenient units. (The mathematics justifying the specific quantity (mass) of natural gas in a DLE and DGE is included in Appendix A.)

2014 NCWM Interim Meeting: Mr. Albuquerque (Chair, National Gas Steering Committee [NGSC]) notified the Committee that this item is being developed by the NGSC. The Committee noted that the factor in Section 2.27.1.6. Liquefied Natural Gas should not read − 126.1 °C but rather – 162 °C.

The L&R Committee responded to the NGSC's June 10, 2014, request to change the NGSC's March 2014 recommendation for DGE units. The Committee agreed that the CNG and LNG conversion factors proposed for use in converting these gases to DGE units should be revised in the 2014 Interim Report so that their numerical values are expressed to three decimal places rather than two decimal places. These changes are reflected in the following proposed modifications within Section 2.27. Retail Sales of Natural Gas Sold as Vehicle Fuel to read: 1 Diesel Gallon Equivalent (DGE) is ~~6.380~~ 6.384 pounds of Compressed Natural Gas and 1 Diesel Gallon Equivalent of Liquefied Natural Gas is ~~6.060~~ 6.059 pounds.

2014 NCWM Annual Meeting: A joint session was held with L&R and S&T to hear this item. It was noted that if the L&R did not move forward Item 232-3, there would be no reason to proceed with Item 237-2 and S&T Item 337-2. There was discussion regarding the term "approximately equal" found in Sections 2.27.2.2. and 2.27.2.4. It was noted this term was not a measurement equivalency but refers to energy to in energy content. It was recommended that the Committee give consideration to amend the definition and clarify the meaning. Some spoke in opposition that this item would cause consumer confusion in the marketplace, if adopted. Several members questioned where the IRS obtained the numbers that are used in the IRS tax form. NIST provided an alternative proposal to this item and several members believed this proposal should be taken into consideration. Since the proposal from the NGSC was not released until June 10, 2014, members felt they did not have enough time to vet the modification or the NIST proposal. The Committee reviewed numerous letters in support of all the items related to the sale of natural gas as vehicle fuel.

Regional Association Comments:
2014 CWMA Interim Meeting: Comments were made that this item is a duplicate of Item 232-2 with the exception of the conversion factors, which need to be updated in Item 232-1. Based on this, the Committee recommends Withdrawal of this item. CWMA did not forward this item to NCWM.

2014 CWMA Annual Meeting: The Committee heard comments on this item in conjunction with Item 237-2 and S&T Item 337-2. Main points included in the testimony were: An industry representative stated that gaining consensus on these proposals provides the best chance to develop a uniform national standard. Currently, there are legislative bills in six states supporting DGEs and similar activity in many other states including a letter of support with 54 signatures from Congress. An industry representative commented his membership supports the concept, but expressed concern over a discrepancy with equivalencies between the Internal Revenue Service (IRS) definition (126.67 cubic feet per gal) and the steering group's proposal (123 cu ft per gal). He expressed concern that the industry feels these differences must be reconciled, or they will be faced with confusion between the two standards. A second industry representative agreed. A regulator, who served on the steering group, commented that the some members of the steering group attempted to allow for dual declarations on dispensers, using the mass standard as the primary value. He fears adding multiple new standards will add to the confusion. He further stated that he has no objection to supplemental language, but traditional mass unit should be the primary unit.

A NIST Technical Advisor commented there are currently seven different types of fuels, and asked if they should all have gasoline gallon equivalents. A parallel example was provided of selling paint on a square foot wall coverage equivalent. Would weights and measures consider this a viable method of sale?

An industry representative commented that multiple unit pricings could cause confusion, and there were concerns about retrofitting old equipment to allow for multiple unit pricings. He further stated labels are the mechanism by which we convey mass measurement. The same representative commented that some say GGE should have never

been adopted. Another regulator stated natural gas engines are not diesel engines. When posting price equivalence, consumers could be misled or confused as to the energy comparison versus the price comparison.

A NIST Technical Advisor stated a consumer should be aware of what is being measured and that measurement should be accurate. A regulator asked the Conference to recall consideration of equity and uniformity statements in the past. He gave examples of previous items that were artificial declarations and were rejected by the Conference; examples included "lasts the same as," "burns longer than," "equivalent to" . . . etc. The regulator stated that in most cases, natural gas has been sold in fleets, so the cost per mile factor has been calculated internally. Sales are now increasing at public fueling locations, so when selling fuel with equivalencies, we are getting into marketing rather than weights and measures functions.

CWMA L&R and S&T Committees met jointly in a working session and concur the items have merit, but questions and concerns over accuracy of this final proposal still remain. Both Committees agreed to move the item forward as an Information item. During the L&R Committee's work session, discussion took place regarding the inconsistency in language in the method of sale in Item 232-3, Section 2.27.2.; and Item 237-2 Section 3.11.2.1. Additionally, the Committee discussed the importance of including the same number of significant digits in the conversions specified in the DGE and DLE values. The Chairman of the CWMA L&R Committee will communicated these two concerns to the Chairman of the NCWM NGSC.

WWMA did not forward this item to NCWM. See comments in Item 232-2 of this report.

NEWMA: At the 2013 Interim Meeting this item was forwarded to NCWM and was recommended as an Informational item.

At the 2014 NEWMA Annual Meeting, the Committee heard comments on this item in conjunction with S&T Item 337-2. There was a discussion on the item with numerous comments from both industry and regulatory officials. A summary of the comments are as follows:

- GGE and GLE are already established measurements in the marketplace for CNG.
- If the product is measured in mass, it should be sold in mass.
- Equivalents are not an exact number.
- Consumers have done homework before they buy.
- There is wide support from industry to expand GGE to other fuels.
- CNG is taxed at the federal level based on gallon equivalent. It would be easier to tax by GGE.
- All the reasons heard in support of selling by equivalent units sound like marketing tools.
- NIST Handbook 130 is not a promotional tool! It is about the best way to measure.
- Some states have already adopted GGE or DGE as a method of sale for these alternative fuels.
- Clarify L&R Item 232-3, Section 2.27.2.1. to be consistent with agenda Item 237-2; measured in mass and sold by volume.

Additional comments were heard during the S&T Committee open hearings suggesting the need to include the same number of significant digits in the conversions specified in the proposal for DGE and DLE values. For example, 6.380 and 6.060 contain four significant digits, whereas, 0.765 and 0.726 contain only three significant digits. A recommendation was made to the Committee for it to determine whether or not the values specified are appropriate.

Due to the concerns expressed during the Open Hearings for both Committees, NEWMA voted to recommend to the National L&R and S&T Committees that the status be changed to Informational. This would allow both Committees to revise the agenda items addressing the concerns raised during Open Hearings as well and any concerns involving the IRS method of taxing these products. There are additional related comments located in L&R agenda Item 232-3.

SWMA 2014 Annual Meeting: It was discussed that the submitter wished to modify the original proposal; however, the conversion factors are correct in this item. The S&T and L&R Committees met in a joint session to deliberate on the comments, and during discussion, it was decided the two items should be harmonized and move in tandem. During the joint session, discussion took place on how to move forward on the natural gas items. The Committees received a handout from Mr. Brett Barry (Clean Energy) summarizing the Natural Gas Vehicle Fuel DGE proposal.

The SWMA recommends Withdrawing this item to consolidate all of the information under Item 232-2. SWMA did not forward this item to NCWM.

Additional letters, presentations, and data may have been part of the Committee's consideration. To review the supporting documentation, please refer to the *Report of the 98th National Conference on Weights and Measures* (SP 1171, 2013).

232-4 V Section 2.33. Oil.

(This item was Adopted.)

Source:
Automotive Oil Change Association (AOCA) (2013)

Purpose:
Prevent consumer confusion and government-sponsored product bias regarding legitimate, manufacturer-recommended products, and to prevent installers and retailers from being held responsible for labeling requirements with respect to packaged goods.

Item Under Consideration:
Amend NIST Handbook 130, Uniform Regulation for the Method of Sale of Commodities as follows:

2.33. Oil.

2.33.1. Labeling of Vehicle Engine (Motor) Oil. – Vehicle engine (motor) oil shall be labeled.

2.33.1.1. Viscosity. – The label on any vehicle engine (motor) oil container, receptacle, dispenser, or storage tank, and any invoice or receipt from service on an engine that includes the installation of **bulk** vehicle engine (motor) oil dispensed from a receptacle, dispenser, or storage tank, shall contain the viscosity grade classification preceded by the letters "SAE" in accordance with SAE International's latest version of SAE J300, "Engine Oil Viscosity Classification."

Note: If an invoice or receipt from service on an engine has limited room for identifying the viscosity, brand, and service category, then abbreviated versions of each may be used on the invoice or receipt and the letters "SAE" may be omitted from the viscosity classification.

(Note Added 2014)

(Amended 2014)

~~**2.33.1.2. Intended Use. – The label on any vehicle engine (motor) oil container shall contain a statement of its intended use in accordance with the latest version of SAE J183, "Engine Oil Performance and Engine Service Classification (Other than "Energy Conserving")."**~~

2.33.1.~~3.~~2. Brand. – The label on any vehicle engine (motor) oil container and the invoice or receipt from service on an engine that includes the installation of **bulk** vehicle engine (motor) oil dispensed from a receptacle, dispenser, or storage tank shall contain the name, brand, trademark, or trade name of the vehicle engine (motor) oil.

(Amended 2014)

2.33.1.4.~~3.~~ Engine Service Category. – The label on any vehicle engine (motor) oil container, receptacle, dispenser, or storage tank and the invoice or receipt from service on an engine that includes the installation of **bulk** vehicle engine (motor) oil dispensed from a receptacle, dispenser, or storage tank shall contain the engine service category, or categories, displayed in letters not less than 3.18 mm (1/8 in) in height, as defined by the latest version of SAE J183, "Engine Oil Performance and Engine Service Classification (Other than "Energy Conserving")," ~~**or**~~ API Publication 1509, "Engine Oil

Licensing and Certification System~~.~~," **European Automobile Manufacturers Association (ACEA), "European Oil Sequences," or other Vehicle or Engine Manufacturer Standards as provided in Section 2.33.1.3.1.**

(Amended 2014)

2.33.1.~~4.~~3.1. Vehicle or Engine Manufacturer Standard. – The label on any vehicle engine (motor) oil container, receptacle, dispenser, or storage tank and the invoice or receipt from service on an engine that includes the installation of vehicle engine (motor) oil dispensed from a receptacle, dispenser, or storage tank shall identify the specific vehicle or engine manufacturer standard, or standards, met in letters not less than 3.18 mm (1/8 in) in height. If the vehicle (motor) oil only meets a vehicle or engine manufacturer standard, the label must clearly identify that the oil is only intended for use where specifically recommended by the vehicle or engine manufacturer.

(Added 2014)

2.33.1.~~4.1.~~3.2. Inactive or Obsolete Service Categories. – The label on any vehicle engine (motor) oil container, receptacle, dispenser, or storage tank and the invoice or receipt from service on an engine that includes the installation of **bulk** vehicle engine (motor) oil dispensed from a receptacle, dispenser, or storage tank shall bear a plainly visible cautionary statement in compliance with the latest version of SAE J183, Appendix A, whenever the vehicle engine (motor) oil in the container or in bulk does not meet an active API service category as defined by the latest version of SAE J183, "Engine Oil Performance and Engine Service Classification (Other than "Energy Conserving")." **If a vehicle engine (motor) oil is identified as only meeting a vehicle or engine manufacturer standard, the labeling requirements in Section 2.33.1.3.1. Vehicle or Engine Manufacturer Standard apply.**

(Amended 2014)

2.33.1.4.~~5.~~ Tank Trucks or Rail Cars. – Tank trucks, rail cars, and other types of delivery trucks that are used to deliver **bulk** vehicle engine (motor) oil are not required to display the SAE viscosity grade and service category or categories as long as the bill of lading or other documentation provides that information.

(Amended 2013 **and 2014**)

2.33.1.5.~~6.~~ Documentation. – When the engine (motor) oil is sold in bulk, an invoice, bill of lading, shipping paper, or other documentation must accompany each delivery. This document must identify the quantity of **bulk** engine (motor) oil delivered as defined in Sections 2.33.1.1. Viscosity; ~~**2.33.1.2. Intended Use;**~~ 2.33.1.~~**3.**~~**2.** Brand; 2.33.1.~~**4.**~~**3.** Engine Service Category; the name and address of the seller and buyer; and the date and time of the sale. For inactive or obsolete service categories, the documentation shall also bear a plainly visible cautionary statement as required in Section 2.33.1.~~**4.1.**~~**3.2** Inactive or Obsolete Service Categories~~**.**~~. **D**ocumentation must be retained at the retail establishment for a period of not less than one year.

(Added 2013) **(Amended 2014)**

(Added 2012) **(Amended 2014)**

Background/Discussion: The vast majority of engine oil used at professional fast lube facilities is the most current category of API (American Petroleum Institute) licensed oil. However, older, specialty, and some non-American vehicles take engine oil not listed as active under API's private regulatory scheme; some are former API licensed oils now considered "obsolete" or "inactive" and some are simply licensed by another organization like the European Automobile Manufacturers Association (ACEA). However, if original equipment manufacturers (OEM) recommend those engine oils for their vehicles, consumers have a right to use them regardless of API's blessing, and installers and retailers should be able to sell them without obstruction.

Automotive Oil Change Association (AOCA) amendment is necessary because a cautionary statement appearing on service receipts without explanation will inappropriately mislead consumers with older and uncommon model

vehicles into believing they should not use OEM-recommended engine oil. The average fast lube customer does not recognize API or SAE (Society of Automotive Engineers) to mean anything in particular but "CAUTION" and "OBSOLETE" in big capital letters could only be understood as negative. Scaring consumers in this way will not only push them to buy more expensive engine oil they do not need but also engender distrust in their installer service providers for recommending and/or using OEM-recommended engine oil.

The average age of cars in the current fleet is nearly 11-years old, and it is not unusual for fast lubes to have customers with vehicles twice that age; for example, there are millions of opportunities for consumers to be misled into rejecting proper engine oil. The fact is American consumers are hanging onto their vehicles longer than API is hanging onto its service categories. When API designates a motor oil category as inactive, this does not mean consumers with vehicles designed to use that category turn in their cars or otherwise want to buy a more expensive grade of motor oil going forward. Therefore, a category of motor oil designed to work for particular makes and models of vehicles should not be burdened with the chilling effect of a cautionary statement absent a specific clarification acknowledging the preeminence of the OEM's recommendations.

The new standard phase-in factor must be considered as well. When API publishes a new edition of 1509, *Engine Oil Licensing and Certification Systems*, and/or creates a new service category, a reasonable phase-in period for bulk oil stock is necessary to accommodate older vehicle owners' needs; for example, it may be in those customers' best interests, both functionally and economically, to use motor oil developed in accordance with an earlier edition or service category so long as the automobile manufacturer originally recommended it and its continued use has no impact on any remaining warranty coverage. Although it is common for API to retain a couple of the most recent service categories as "active," API could choose to make all but the most recent service category "obsolete." For fast lube operators to automatically upgrade bulk oil stock at API determined intervals would be tantamount to giving API control over the price of oil change services regardless of what the market can bear.

And what about packaged engine oil products already on the shelf or in the distribution chain when API makes a unilateral decision to deactivate an engine oil category? As a practical matter, tens of thousands of retailers and installers cannot re-mark millions of packages to coincide with API's timing or take the financial hit for sending it all back in violation of purchase agreements. Attempting to enforce the labeling requirement at this level would be a nightmare for everyone involved. The way to avoid this problem is to adopt AOCA's amendment so that the requirement for proper labeling of packaged containers of engine oil rest with the party in control of the packaging−the manufacturers.

Without the amendment, the labeling requirement will be very difficult to enforce given the inventory of packaged goods remaining after an active engine oil category has been declared inactive or obsolete.

Fast lubes would experience catastrophic business loss if customers with older and uncommon model vehicles were alienated. Maintenance costs for consumers with older model cars could easily double if they are confused into believing they need the latest category of engine oil.

AOCA contends that the proposed amendment will accomplish three important goals: 1) prevent unintended consumer confusion and product stigma from using a cautionary statement by reestablishing the connection to OEM recommendations; 2) provide the necessary exemption to protect retailers and installers for selling lawful packaged inventory; and 3) which leads to an increase in practical enforcement prospects.

The most analogous regulatory situation to the one at issue in AOCA's proposed amendment is found in the Federal Trade Commissions (FTC) Test Procedures and Labeling Standards for Recycled Oil (16 CFR 311). In that rulemaking process, FTC specifically rejected requiring recycled engine oil to be labeled "recycled" because of the stigma associated with the term at that time (see 72 FR 14410 – 14413 & FN11 [1 H.R. Rep. No. 96–1415, 96th Cong. 2d Sess. 6 (1980), reproduced at 1980 U.S. Code Cong. & Ad. News 4354, 4356. ''Oil should be labeled on the basis of performance characteristics and fitness for its intended use, and not on the basis of the origin of the oil.'']). The National Automobile Dealers Association (NADA) also commented in favor of this approach: "NADA further stated that by not requiring that ''substantially equivalent'' recycled oils be labeled ''recycled'' or ''re-refined,'' used oil processors are able to market their products effectively." (72 FR at 14411) No "recycled" or other potentially derogatory designation is required so long as the finished product meets the appropriate API standard.

2013 NCWM Interim Meeting: A state opposed this item and would like to see it Withdrawn. The FALS Chairman remarked that there are several engine oils designed for specific model vehicles and the FALS is trying to resolve this issue. A Committee member remarked that a statement of accountability should be within the language. The Committee would like to see additional language developed by FALS and made this an Informational item.

2013 NCWM Annual Meeting: The FALS submitted modified language for Sections 2.33.1.4. Engine Service Category, 2.33.1.4.1. Vehicle or Engine Manufacturer Standard and 2.33.1.4.~~1~~**2.** Inactive or Obsolete Service Categories. The Committee would like to have regional input on this modified language to review at the 2014 NCWM Interim Meeting.

2014 NCWM Interim Meeting: The FALS and API provided the Committee with modified language. This modified language removes Section 2.33.1.2. Intended Use. For clarification the term "bulk" was added. In Section 2.33.1.1. Viscosity, a note was added to allow for abbreviations on tickets and the term "SAE" may be omitted. One member questioned the labeling for underground storage containers and their legibility. The Committee moved the modified language forward as a Voting item.

2014 NCWM Annual Meeting: The Committee agreed to minor editorial corrections to the language in its Interim Report to that shown in this Final Report in the Item Under Consideration.

Regional Association Comments:
CWMA reported that this item is still under consideration from engine manufacturers and FALS. During previous CWMA meetings (since 2012), various industry representatives have provided comments to the region. AOCA stated that the oil change industry consists of small businesses without legal staff so they need clear guidance that is easily understood. These businesses follow OEM recommendations, which recommend oils that do not follow API or SAE standards. The language should acknowledge that some manufacturers approve and recommend their own oil. AOCA thought that the current language required all OEM oils that did not meet a specific API performance standard to be labeled as obsolete. A GM representative confirmed GM produces its own oils, which does not have an API certification. A FALS member shared the API motor oil guide, which labels specific categories of oil as obsolete (refer to Appendix C in the *Report of the National Conference on Weights and Measures* (SP 1171, 2013). If a manufacturer does not label the oil with an API obsolete category, the product is not considered to be obsolete. OEM manufacturers that were named do not label their oil with an obsolete category, and so oil changers do not need to worry about the obsolete label being used on OEM motor oils. State regulators clarified that nothing is written in the regulation, and that grace periods would be determined on a state-by-state basis. AOCA reiterated that the language should clearly state that OEM oils that do not have API certification are not obsolete. AOCA asked that the Committee recommend this clarifying language. AOCA also stated installers should not be responsible for labeling on packaged products received. A regulatory official stated retailers in other industries are responsible for labeling on packages received, and it would be an unfair market advantage to allow some retailers to use products that were illegally labeled. Since the current language is not clear about exactly what oils are obsolete, the Committee recommended that FALS continue to develop this issue. At the 2013 CWMA Annual Meeting, Mr. Ferrick (API) opposed the language for this item, stating if a product meets an obsolete standard the customer deserves to know this. CWMA would like to see additional information from FALS. An industry representative opposed the proposed language for this item stating if a product meets an obsolete standard the customer deserves to know this. CWMA recommended that the item remain Informational at the May Annual Meeting in 2013.

2014 CWMA Annual Meeting: It was noted that this item has companion Items 237-6 and 237-11. An industry representative commented he supported all items with an additional change to Item 237-11 (see Item 237-11). The Committee believes the item has been fully developed and is recommending it as a Voting item.

WWMA heard comment from Mr. Ferrick (API) who supported the proposed changes to NIST Handbook 130 which are necessary and provided the following reasons: 1) adding the reference to ACEA will expand the current regulation to cover engine oil performance specifications recommended by many European vehicle and engine manufacturers; and, 2) allowing engine oil labels, invoices and receipts to list a performance specification set by a particular vehicle or engine manufacturer will address unique situations where an oil cannot claim any performance level maintained by API or ACEA. The FALS Chair reported it is currently considering these changes, but has not reached consensus, seeking resolution by 2014 NCWM Interim Meeting. WWMA recommended that this be an Informational item.

NEWMA received comment in 2012 from API stating it opposes the item and that specifics have been submitted in writing. API suggested this proposal and Item 237-4 be Withdrawn. General Motors indicated the proposal appears to allow older formulations of engine oil, but newer formulations give better performance, even in older vehicles. GM prefers current formulation of engine oil. NEWMA did not forward the item to NCWM. At the 2013 NEWMA Annual Meeting, testimony was heard that API indicated they submitted comments to their opposition of this item and requested this item be Withdrawn. NEWMA would like to see additional information from FALS. In 2013, the API representative commented to NEWMA that final language review should be made through FALS. No other comments were heard, and NEWMA recommended that this be an Information item. The 2014 NEWMA Annual Meeting recommended that the new clarified language be a Voting item.

SWMA received comment at their 2012 Annual Meeting from an API representative who voiced their opposition to the item and provided written testimony in dispute of the comments and claims made by the submitter. At the 2013 SWMA Annual Meeting, SWMA recommended the item be moved forward as two separate Developing items as FALS had indicated, in order to move the ACEA reference forward.

Additional letters, presentations, and data may have been part of the Committee's consideration. To review the supporting documentation, please refer to the *Report of the 98th National Conference on Weights and Measures* (SP 1171, 2013).

232-5 W Section 2.XX. Printer Ink and Toner Cartridges Labeling

(This item was Withdrawn.)

Source:
Southern Weights and Measures Association (2010)

Purpose:
Clarify the labeling requirements for industry, consumers, and weights and measures officials.

Item Under Consideration:
Amend NIST Handbook 130, Method of Sale Regulation as follows:

2.XX. Printer Ink and Toner Cartridges Labeling.

2.XX.1. Definitions.

2.XX.1.1. Printer Ink Cartridges. – Any cartridge or module that contains ink or a similar substance in liquid form employed in the printing and/or copying of documents, papers, pictures, etc., that is used in a printing device and designed to be replaced when no longer able to supply its contents in printing and/or copying.

2.XX.1.2. Toner Cartridges. – Any cartridge or module that contains toner, powder, or similar non-liquid substance employed in the copying or printing of documents, papers, pictures, etc. that is used in a printing and/or copying device and designed to be replaced when no longer able to supply its contents in printing and/or copying.

2.XX.2. Method of Sale and Labeling.

2.XX.2.1. Method of sale, printer ink cartridges. – All printer ink cartridges kept, offered, or exposed for sale or sold shall be sold in terms of the count.

2.XX.2.2. Method of Sale, toner cartridges. – All toner cartridges kept, offered, or exposed for sale or sold shall be sold in terms of the count.

2.XX.3. Yield Disclosure. – If the seller discloses the yield of printer ink or toner cartridges on the package, then it shall be measured using the latest version of ISO/IEC printer yield standard on the package offered for prepackaged sale. This information shall be considered a supplemental statement.

Note: Labeling shall be enforceable after month/day/20XX.

(Added 20XX)

Background/Discussion:
Over the past several years, there has been a change in the marketplace on inkjet and toner cartridges net content statements. There is little uniformity, and the Committee has seen some labels with a net content or with only a page yield count (e.g., prints 1000 pages). The NIST, OWM pointed out that, according to guidelines printed in NIST Handbook 130, Weights and Measures Law, Section 19. Information Required on Packages, these products are required to have the net contents of the ink (and toner) labeled, but manufacturers have resisted, claiming an exemption under the FPLA. The purpose of this proposal is to specifically clarify the requirements for industry, consumers, and weights and measures officials.

NCWM 2010 Interim Meeting: Mr. Matthew Barkley (Hewlett Packard Co.) commented that the FPLA creates an exemption for ink which extends to toner and ink cartridges. A declaration of weight and volume are not the best way for consumers to make value comparisons. Customers benefit from page count/yield. Mr. Barkley urged that this issue be Withdrawn. If this issue is to proceed, it should be Informational to allow for a review of the FPLA exemption. He suggested that page yield is widely accepted and has repeatability measures.

Mr. Jeran (Hewlett Packard Co.) submitted a white paper from the Information Technology Industry Council (refer to Appendix C in the *Report of the 96th National Conference on Weights and Measures* [SP 1125, 2011]). This white paper included manufacturers from Epson, Hewlett Packard, Kodak, and Lexmark. Mr. Jeran explained that his background is with ink and toner measurement. For the same volume of ink, two different systems of the same model cartridge from two different vendors can print a different number of pages. In order to determine the page yield, they are using the ISO/IEC methodology. ISO is working on a photo yield standard.

An official expressed concerns with page yield being the standard page print for quantity. Variation exists based on the type of cartridge, printer, and font and if graphics/photos are being printed. There is also a concern with what ink cartridge refillers are doing. The Florida official reviewed the current practice of refillers, and said they are stating the amount of ink on labels. There are many manufactured packages in the marketplace, so value comparison to the Original Equipment Manufacturer (OEM) is critical. This is an expensive commodity and clarifications of the requirements are needed. An official recommended that this item not be Withdrawn, but made Informational to allow time for research. Regulatory officials firmly believe that there needs to be a consistency with the declaration statement on these types of items. A consumer stated that the net content needs to be stated with voluntary supplemental information for page yield. Some voiced their opinion that consumers need to know page yield in order to make a value comparison. The NIST Technical Advisor stated that under the FTC regulations ink and toner cartridges were not part of the CFR. NIST, OWM met with the FTC on February 26, 2010, to request clarification of the exemption. According to the Committee, there needs to be a test procedure for verification of net content developed for ink and toner cartridges. The 2010 L&R Committee designated this item as an Informational item until they receive clarification from FTC, review ISO standards, and determine what refillers' current practices are.

NCWM 2010 Annual Meeting: Mr. Pociask (American Consumer Institute) presented a 2007 study done by his organization with funding by a telemarketing research company. An official expressed his concern that the presentation was not clear and asked if page count is based on certain fill levels or declaring the weight on the cartridge itself? Mr. Pociask responded that Quality Logic uses the ISO standards. He concluded that net weight is easy to enforce. Mr. Pociask stressed that his focus is to provide information that gives consumers useful information in purchasing printers and the life cost of the printer, including printer ink cost.

Another official stated that the study was interesting, but would like to hear from manufacturers. There are several issues; cartridges are only for specific printers, when comparing price per page you suggest that price is static, and printer ink cartridge refillers need to be addressed.

Mr. Rosenberg (Information Consumer Industry Council) agreed that providing consumers with information is meaningful; however, relevant to the consumer is the number of pages that can print. The ISO standards are a good tool, but will lead to customer confusion. Mr. Rosenberg said that much more discussion is necessary on this issue (refer to the *Report of the 96th National Conference on Weights and Measures* [SP1125, 2011], Appendix C).

NCWM 2010 Annual Meeting: The Board of Directors established a Printer Ink and Toner Cartridge Task Group (TG) to review and obtain additional information from all stakeholders. Ms. Dempsey (Montgomery County Weights and Measures, Ohio) was appointed as chair and Ms. Warfield was designated as the NIST Technical Advisor.

NCWM 2011 Interim Meeting: The TG held its first work session, chaired by Ms. Maureen Henzler (Kansas Department of Agriculture). There was discussion on the current forms and types of printer ink. Industry also explained that they are able to deliver less ink with a better print quality. As a result they refrain from using the net content statement but believe that a page yield is more useful information for a consumer in making comparisons. Industry was informed that yield is not acceptable and they cannot use words like "approximate" and "estimated." It was agreed that yield could be a supplementary statement on the package. The 2011 L&R Committee designated this item as an Informational item.

The TG requested the following additional information from industry:

1. How does the ISO standard work and how does this standard would fit into the weights and measures test procedure?

2. How is print darkness measured?

3. Why have manufacturers removed the net weight declaration from packages and replaced it with a page yield?

4. When changing formulas, is the toner receptacle resubmitted back through the ISO standards to validate the page print accuracy?

NCWM 2011 Annual Meeting: The TG held a Sunday work session. Several state, county, and city weights and measures officials and members of industry attended. Mr. Josh Rosenberg (Information Technology Industry Council [ITI]), and other printer industry representatives gave a presentation outlining why they believe yield is the appropriate method of sale for their products. They responded to questions regarding the quantity control they have when manufacturing the cartridges. All industry representatives acknowledged in response to questions that their companies have very good quantity control systems in place for filling cartridges. A stakeholder stated that packages must have the weight, measure, or count; no other type of labeling is acceptable. Participants commented that "yield" is not an acceptable means of labeling for any product. The TG agreed to meet again at the 2012 NCWM Interim Meeting. The group requested that industry representatives make another presentation at that time that would be limited just to the labeling issue. The TG plans to submit a method of sale proposal to the NCWM L&R Committee for a method of sale for packaged printer ink and toner cartridges.

During the Committee Open Hearings, Mr. Rosenberg (representing Lexmark, Hewlett Packard, Kodak, Epson, and Brother) submitted a presentation from the Sunday session for the record (refer to Appendix C in the *Report of the National Conference on Weights and Measures* [SP 1125, 2011]). Mr. Rosenberg remarked that quantity declarations by volume or weight do not meet the objectives of his organization nor consumers' preference. He said that yield is the best way to enable consumers to make informed purchase decisions. He believes the ISO standard for yield can be applied to create that data. Mr. Rosenberg stated that industry representatives will attend upcoming regional meetings to address any issues or concerns. A stakeholder noted that he does not believe the ISO yield standard is acceptable, because each manufacturer's default system is different. He also pointed out that NCWM is not a performance based evaluation agency, and encouraged the Task Group to propose the use of weight or volume as the method of sale. The L&R Committee requested that the TG continue developing this item.

NCWM 2012 Interim Meeting: Ms. Henzler informed the Committee that the TG did not have a recommendation on a method of sale for either the ink or toner. They did suggest minor editorial changes to add the word "copying" after the word "printing" or vice versa, throughout the definitions.

Several members of the ink and toner industry recommended that this item be Withdrawn, and they have reflected this in letters written to the Committee since this item first appeared. They remarked that the current proposal would confuse and mislead consumers. They believe that consumers are not concerned with the net quantity of ink they are getting, but how many pages they can print. They agreed that the definitions do need additional work. They added that there are other ink technologies in the marketplace such as, wax sticks and oils. Currently wax sticks/crayons are sold by count.

A contractor commented that the Method of Sale Regulation states items must be sold on the basis of weight, measure, or count. The regulation should be the starting point with the possibility of adding supplementary information. The Committee believes test procedures need to be developed to test these commodities. In addition, destructive testing of these products can be costly. The Committee wants to look at the possibility for both toner and ink to be sold by weight. Ms. Cardin, TG Chair, will request that the NCWM Board of Directors appoint a new work group to develop test procedures and to disband the current TG on Printer Ink and Toner Cartridges. The 2012 L&R Committee designated this item as an Informational item.

NCWM 2012 Annual Meeting: The new Printer Ink and Toner Cartridge Gravimetric Package Testing Task Group (TG) met to discuss a test method that would require industry to label cartridges with a tare (packaged materials) weight. This TG, chaired by Ms. Cardin, will continue to develop gravimetric test methods for printer ink and toner cartridges, and will provide a report at the 2013 NCWM Interim Meeting. The Committee is placing an item in the 260 Series (NIST Handbook 133) in their next agenda to report the work of the Printer Ink and Toner Cartridge Gravimetric Package Testing TG. The L&R Committee will delay further development of this method of sale item until the TG has completed its recommendations.

NCWM 2013 Interim Meeting: Ms. Cardin (Printer Ink and Toner Cartridge Gravimetric Package Testing TG Chair) provided a presentation on the work of the TG (refer to Item 260-3). Ms. Cardin also provided a marketplace survey that reflected "count" was the most common quantity statement being used. Industry was asked about the feasibility of placing the tare weight on cartridges. Their response was that it was not practicable due to cartridge parts being manufactured domestically and internationally and may not always be made of the same material. The presentation also reflected an in-house test using a gravimetric procedure. The TG concluded that there is not a practical test procedure and the work group is disbanding. The Committee discussed the results of the TG and reviewed the method of sale language. In conclusion, the method of sale language was revised by the L&R Committee to allow for this product to be sold by count. Ms. Lisa Warfield (NIST, OWM) commented that consideration needs to be given to the time manufacturers will need to change over 2013 NCWM Annual Meeting: The Committee heard several comments that there may not be a feasible way to label and test this product. Industry believes that consumers are interested in a yield statement when making a purchase. The Committee modified the language in Section 2.XX.3. Yield Disclosure to read as:

> **2.XX.3. Yield Disclosure – If the seller discloses the yield of printer ink or toner cartridges on the package, then it shall be measured using the latest version of ISO/IEC printer yield standard on the package offered for prepackaged sale. This information shall be considered a supplemental statement.**

The Committee moved this item to an Informational for a review of the amended language at the fall regional association meetings.

NCWM 2014 Interim Meeting: The Committee heard that count should not be the method of sale for this item. If there is a concern, they can use third-party testing laboratories to test against the appropriate ISO/IEC standard. The Committee reviewed the history and regional reports and Withdrew this item.

Regional Association Comments:
CWMA's L&R Committee feels a feasible way to label and test this product has not been discovered and the item should be Withdrawn. State officials have both supported and opposed this item in the past, some indicating they would rather see a weight statement because the amount of ink would be too small to measure the density. There

has been some support for a yield statement instead of measurement by weight because one cannot measure when the cartridge retains some portion of ink. Others question how yield could be measured (ISO yields are based upon approximations), but suggested yield may be a supplemental declaration. No new procedures or recommendations have been brought forth from the Printer Ink and Toner Cartridge Gravimetric Package Testing TG. This issue has been on the agenda since 2010. CWMA recommended that this item be Withdrawn.

WWMA received comment from a regulator who noted that yield is being considered since no method of sale can be agreed on. If a statement of yield is required, it could be perceived as method of sale, when in fact it is a supplemental performance statement. The Committee noted there was no practical way to verify and measure such quantity statements. During Committee deliberations, it was noted that if yield is agreed upon by NCWM, then the committee's recommendation is to place this requirement in the Uniform Package and Labeling Requirement, Section 11, rather than the Method of Sale. WWMA recommended that this item be Withdrawn.

NEWMA received a presentation at its 2010 Annual Meeting from Mr. Pociask (American Consumer Institute) regarding a lack of consumer information when purchasing computer printers and cartridges. NEWMA expressed that there are still many unanswered questions and would like to hear from manufacturers of printer ink and toner cartridges. NEWMA recommended that the item remain as an Informational item. At the 2010 NEWMA Interim Meeting, it was announced NCWM is seeking a chair for the Printer Ink and Toner Cartridge Task Group. In 2011, there were no comments heard on this item. The Committee Chair reminded members that the Printer Ink and Toner Cartridge TG will be meeting on the Sunday prior to the start of the NCWM Annual Meeting, and that industry will be giving a presentation. The NEWMA L&R Committee recommended that this item move forward as an Informational item. At the 2012 NEWMA Annual Meeting, Mr. Floren (Los Angeles County, California) indicated that there is an impasse on Method of Sale and test procedures on these items. The TG was not planning to meet at this time to resolve the issues. NEWMA recommended that the item remain as an Informational item. At the 2013 NEWMA Annual Meeting, several representatives believed "count" was meaningless. A remark was made about "low count: being exempt from count requirements." NIST responded stating it would be exempt if written into the requirements. FTC was consulted but did not take a position on this issue. Several attendees speaking as consumers voiced concerns on a yield statement. NIST advised that there are ISO/IEC yield standards. NEWMA recommended the modification to Section XX.2. Method of Sale.

2.XX.2. Method of Sale ~~and Labeling~~.

2.XX.2.1. **Method of sale, printer ink cartridges**. – All printer ink cartridges kept, offered, or exposed for sale or sold shall be sold in terms of the count

2.XX.2.2. Method of Sale, toner cartridges. – All toner cartridges kept, offered, or exposed for sale or sold shall be sold in terms of the count

2.XX.3. Yield Disclosure. – The seller shall disclose the yield of printer ink or toner cartridges as per ISO/IEC 19752, ISO/IEC 19798, ISO/IEC 24711, ISO/IEC 24712 on the package offered for prepackaged sale, or on the receipt for direct sale, or on the transfer document for bulk sale.

NEWMA stated all work has been completed and industry and NCWM L&R are in agreement on the Method of Sale by count. The proposed modification provides clarity to the consumer when "yield" is questioned. NEWMA recommended the modified language move forward as a Voting item.

NEWMA 2013 Interim Meeting: NEWMA reviewed comments and recommendations for this to be Withdrawn from the WWMA and SWMA. There was a variety of concerns with this item from attendees. The NCWM L&R Committee recommended that method of sale be count. Discussion was heard about the lack of accuracy using weight/volume of the cartridges based on the variety of different parts in ink cartridges and third party manufacturers complying with ISO/IEC yield standards. One attendee did not want this to be Withdrawn, it should not be difficult to determine yield based on ISO/IEC for individual manufacturers. Another attendee stated that yield could be part of secondary package labeling. NEWMA recommends this item be sent to PALS for input on secondary labeling on the packaging in addition to count thereby giving the consumer more information using the 2013 NEWMA proposed yield language as a basis.

SWMA received this proposal at their 2009 Annual Meeting. A Lexmark representative commented they do not believe that a net content statement should be required, and a page yield is sufficient. He read the main points of a Lexmark letter to Mr. Gray, (Florida Department of Agriculture and Consumer Services) dated March 17, 2009. The main points within the letter were: 1) the ink associated with a cartridge is a small fraction of the total cost of the print cartridge mechanism; 2) a page yield can provide a meaningful comparison to a consumer if all manufacturers employ the same estimating assumptions and techniques; and 3) International Organization for Standardization (ISO) studied this issue for years and has rejected reliance on ink volume or quantity; instead ISO has developed a yield estimating and claiming methodology that permits cartridges to be compared using a consistent yardstick. Unlike ink volume measurements, page yield measurements provide a consumer with a reliable way to compare the amount of printing that can be expected. Lexmark also stated ink is expressly exempt from labeling as provided by the FPLA, 16 CFR Part 503.2(a).

An industry representative said this issue does need to be discussed and reviewed further. However, many officials believe consumers should know what they are getting. If it is determined that page count is the quantity statement, then the page print standard should be reviewed and have tighter standards. Mr. Gray said more data is needed from manufacturers on this issue. SWMA forwarded the item to NCWM, recommending it as a Developing item.

SWMA 2010 Annual Meeting: It was announced that a chair is needed for the Printer Ink and Toner Cartridge TG. The Committee did not endorse the formation of the Printer Ink and Toner Cartridge TG to resolve this issue. Only within the past couple years have manufacturers changed their declaration statement to read "yield." Allowing the declaration by yield will open the door for other commodities to change their labeling (e.g., loads of laundry). The SWMA Committee recommended that these commodities be sold by volume and weight; however, they are not opposed to yield being a supplementary statement. This will allow for inspectors to verify the net contents, and also provide information for consumers to make value comparisons. The Committee would like to seek additional information from industry and ink refillers. SWMA recommended that the item be a Voting item.

SWMA 2011 Annual Meeting: No comments were recorded. The Committee supported the item as written. SWMA recommended that the item be a Voting item.

SWMA 2012 Annual Meeting: An industry representative serving on the Printer Ink and Toner Cartridge Gravimetric Package Testing TG commented that it is was established to develop a test procedure for checking net contents without regard for the method of sale. SWMA supported the Method of Sale proposal as written recommended that the item be a Voting item.

SWMA 2013 Annual Meeting: SWMA recommended the item be Withdrawn since no acceptable resolution appears to be able to be reached.

Additional letters, presentations, and data may have been part of the Committee's consideration. To review the supporting documentation, please refer to the *Report of the 98th National Conference on Weights and Measures* (SP 1171, 2013).

232-6 V Section 2.30. ~~E85 Fuel~~ Ethanol Flex Fuel Blends

(This item was Adopted.)

Source:
Fuels and Lubricants Subcommittee Task Group (2012)
(Note: In the Report of the 98th National Conference on Weights and Measures (2013) Item 232-6)

Purpose:
Update regulations related to flex fuels.

Item under Consideration:
Amend NIST Handbook 130, Method of Sale Regulation as follows:

2.30. ~~E85 Fuel~~ Ethanol Flex Fuel.

2.30.1. How to Identify ~~Fuel~~ Ethanol Flex Fuel – **~~Fuel~~** Ethanol **flex fuel** shall be identified as "**ethanol flex fuel or EXX flex fuel"** **~~E85~~**.

2.30.2. Labeling Requirements.

(a) **~~Fuel~~ E**thanol **flex fuel with an ethanol concentration no less than 51 and no greater than 83 volume percent shall be labeled "ethanol flex fuel, minimum 51 % ethanol". ~~shall be labeled with its automotive fuel rating in accordance with 16 Code of Federal Regulations Part 306.~~**
(Amended 2014)

(b) Ethanol flex fuel with an ethanol concentration less than or equal to 50 volume percent shall be labeled "EXX Flex Fuel, minimum YY % ethanol", where the XX is the target ethanol concentration in volume percent and YY is XX minus 5. The actual ethanol concentration of the fuel shall be XX volume percent plus or minus 5 volume percent.
(Added 2014)

(c) **~~(b)~~** A label shall be posted which states "For Use in Flexible Fuel Vehicles (FFV) Only." This information shall be clearly and conspicuously posed on the upper 50 % of the dispenser front panel in a type at least 12.7 mm (½ in) in height, 1.5 mm ($^1/_{16}$ in) stroke (width of type). A label shall be posted which states, **"CHECK OWNER'S MANUAL," ~~"Consult Vehicle Manufacturer Fuel Recommendations,"~~** and shall not be less than 6 mm (¼ in) in height by 0.8 mm ($^1/_{32}$ in) stroke; block style letters and the color shall be in definite contrast to the background color to which it is applied.
(Amended 2014)

(Added 2007) **(Amended 2014)**

Background/Discussion:
The current wording in NIST Handbook 130 related to fuels restricted to use in Flex Fuel Vehicles should be reviewed. Input gathered from the regional meetings and other stakeholders will be used by FALS to develop recommended modifications to NIST Handbook 130.

NCWM 2013 Annual Meeting: Mr. Chuck Corr, Chair of the task group under FALS provided initial language changes for a Section 2.30. E85 Fuel Ethanol. There is additional work being done by this task group under the L&R Committee Item 237-9.

NCWM 2014 Interim Meeting: There was a comment that the language put liability on the retailer and the owner needs to bear the responsibility on what fuel is required. The language presented needs to be clearer to address this issue. The Committee made minor modifications to the language that was provided by the Chair of the TG. The Committee is recommending this modified language move forward as a Voting item.

NCWM 2014 Annual Meeting: FALS informed the Committee that the term "ethanol flex fuel" shall not be capitalized. Matthew Curran, FALS Chair, indicated he is in contact with the Federal Trade Commission (FTC) in regard to the FTC proposed ruling on this issue. Currently, FTC is awaiting the outcome of the 2014 NCWM Annual Meeting results before proceeding (refer to Appendix C) with their proposal. The Committee agreed to modify the language in its Interim Report to that shown in this Final Report in the item Under Consideration.

Regional Association Comments:
Fall 2013 CWMA Meeting: They offered the following revised proposal to improve the handbook wording on gasoline ethanol blends above 15 %. CWMA supported this alternate wording as a Voting item:

2.30. Ethanol Flex Fuel Blends ~~E85 Fuel Ethanol~~.

2.30.1. How to Identify Ethanol Flex Fuel Blends ~~Fuel Ethanol~~. – **Ethanol Flex Fuel Blends ~~Fuel ethanol~~** shall be identified as **Ethanol Flex Fuel or EXX Flex Fuel ~~E85~~**.

2.30.2. Labeling Requirements.

(a) **Ethanol Flex Fuel blends with an ethanol concentration no less than 51 and no greater than 83 volume percent shall be labeled "Ethanol Flex Fuel, minimum 51 % ethanol". ~~Fuel ethanol shall be labeled with its automotive fuel rating in accordance with 16 Code of Federal Regulations Part 306.~~**

(b) Ethanol Flex Fuel blends with an ethanol concentration less than or equal to 50 volume percent shall be labeled "EXX Flex Fuel, minimum YY % ethanol", where the XX is the target ethanol concentration in volume percent and YY is XX minus 5. The actual ethanol concentration of the blend shall be XX volume percent plus or minus 5 volume percent.

(c)~~(b)~~ A label shall be posted which states "For Use in Flexible Fuel Vehicles (FFV) Only." This information shall be clearly and conspicuously posed on the upper 50 % of the dispenser front panel in a type at least 12.7 mm (½ in) in height, 1.5 mm ($^{1}/_{16}$ in) stroke (width of type). A label shall be posted which states, **"CHECK OWNER'S MANUAL", ~~"Consult Vehicle Manufacturer Fuel Recommendations,"~~** and shall not be less than 6 mm (¼ in) in height by 0.8 mm ($^{1}/_{32}$ in) stroke; block style letters and the color shall be in definite contrast to the background color to which it is applied.

2014 CWMA Annual Meeting: An industry representative encouraged support of this item; FALS also recommends its adoption. A regulator summarized a recent Notice of Proposed Rule from the FTC. He indicated the proposal falls short in a number of areas: 1) for E15, the only requirement would be an EPA label – the FTC proposal does not require an octane rating; 2) ethanol blends above 15 % to 83 % will be posted in units of 10 percent increments; 3) the term "E85" can no longer be used. A second industry representative commented that the FTC proposal is a regression and creates problems; he urged support for this item. FALS is considering submitting comments to FTC regarding the proposed rule. The CWMA L&R Committee agrees with the comments from regulators and industry, believes the item has been fully developed, and is ready for Voting.

WWMA heard from an industry representative who stated that FALS recommends the item be voted upon with the changes shown in the CWMA 2013 Fall Meeting Item 232-5, Section 2.30.2.(c). WWMA recommended the proposed version above as a Voting item.

NEWMA heard from an industry representative that FALS recommends the item be voted upon with the same changes represented above in the CWMA 2013 Fall Meeting, Item 232-5, Section 2.30.2.(c). NEWMA recommended that the item be a Voting item. 2014 NEWMA Annual Meeting: It was recommended this be a Voting item to make it consistent with ASTM on volatility and Flex Fuel language.

SWMA recommended at its 2013 Annual Meeting that the item be a Voting item on the NCWM agenda with the change from "font size" to a measurable type size in paragraph (c) of the proposal as shown in the CWMA 2013 Fall Meeting report, Item 232-5.

Additional letters, presentations, and data may have been part of the Committee's consideration. To review the supporting documentation, please refer to the *Report of the 98th National Conference on Weights and Measures* (SP 1171, 2013).

232-7 V Section 2.XX. Diesel Exhaust Fluid (DEF).

(This item was Adopted.)

Source:
American Petroleum Institute (2014)

Purpose:
To include Diesel Exhaust Fluid (DEF) in NIST Handbook 130, including defining DEF and outlining marking requirements to provide information to consumers of DEF.

Item under Consideration:
Amend NIST Handbook 130, Uniform Regulation for the Method of Sale of Commodities as follows:

2.35. Diesel Exhaust Fluid (DEF).

2.35.1. Definition.

2.35.1.1. Diesel Exhaust Fluid. – A preparation of aqueous urea [(NH2)2CO], containing 32.5 % by mass of technically-pure urea in high-purity water with quality characteristics defined by the latest version of ISO 22241, "Diesel engines - NOx reduction agent AUS 32."

2.35.2. Labeling of Diesel Exhaust Fluid. – Diesel Exhaust Fluid shall be labeled.

2.35.2.1. Retail Dispenser Labeling. – A label shall be clearly and conspicuously placed on the front panel of the Diesel Exhaust Fluid dispenser stating "for operation of selective catalytic reduction (SCR) converters in motor vehicles with diesel engines."

2.35.2.2. Documentation for Retailers of Bulk Product. – A DEF supplier shall provide, at the time of delivery of the bulk shipment of DEF, identification of the fluid's origin including the name of the fluid manufacturer, the brand name, trade name, or trademark, and a statement identifying the fluid as DEF conforming to specifications given in the latest version of ISO 22241, "Diesel engines - NOx reduction agent AUS 32." This information shall be provided by the supplier on an invoice, bill of lading, shipping paper, or other document.

2.35.2.3. Labeling of Packaged Product. – Any diesel exhaust fluid retail package shall bear a label that includes the name of the fluid manufacturer, the brand name, trade name, or trademark, a statement identifying the fluid as DEF conforming to specifications given in the latest version of ISO 22241 "Diesel engines - NOx reduction agent AUS 32," and the statement, "It is recommended to store DEF between − 5 °C to 30 °C (23 °F to 86 °F)."

2.35.2.4. Documentation for Bulk Deliveries. – A carrier that transports or accepts for transportation any bulk shipment by tank truck, freight container, cargo tank, railcar, or any other vehicle used to transport or deliver bulk quantities of DEF shall, at the time of delivery of the DEF, provide identification of the fluid's origin including the name of the fluid manufacturer, the brand name, trade name, or trademark, and a statement identifying the fluid as DEF conforming to specifications given in the latest version of ISO 22241, "Diesel engines - NOx reduction agent AUS 32." This information shall be provided to the recipient on an invoice, bill of lading, shipping paper, or other document.

Effective date shall be January 1, 2016

(Added 2014)

Background/Discussion:
Diesel exhaust fluid (DEF) is an aqueous mixture of 32.5 % high-purity urea and 67.5 % deionized water, and it is used in conjunction with Selective Catalytic Reduction (SCR) systems to remove harmful NOx emissions from diesel engines. In January 2010, the U.S. Environmental Protection Agency (EPA) enacted new emission standards requiring medium- and heavy-duty diesel vehicles to significantly reduce engine emissions, including NOx. A majority of engine manufacturers is now using SCR systems to meet the new EPA standards in their diesel applications, and is specifying the use of DEF meeting the quality requirements of the most current version of ISO 22241, "Diesel engines - NOx reduction agent AUS 32," Parts 1-5.

As a result, the sale of DEF has become a fast-growth, emerging market as pre-2010 on- and off-highway equipment inventory continues to turn over. For instance, DEF may currently be purchased at fuel-island pumps at over 1000 locations nationwide, with many more locations expected in the near future. The sale of DEF can be expected to continue to grow very quickly as additional fleet turnover occurs and regulations for passenger cars, light-duty trucks, non-road vehicles, and stationary diesel engines are phased in during the coming years. Hence, it is of utmost importance that consumers of DEF are receiving the proper information about the product they purchasing as well as assurances that the product meets the ISO 22241, "Diesel engines - NOx reduction agent AUS 32," specifications. The language as originally proposed is as follows:

2.XX. Diesel Exhaust Fluid (DEF).

2.XX.1. Labeling of Diesel Exhaust Fluid. – Diesel Exhaust Fluid shall be labeled.

2.XX.1.1. Definition. – *diesel exhaust fluid, DEF, n*—preparation of aqueous urea [(NH2)2CO], containing 32.5% by mass of technically pure urea in high-purity water with quality characteristics defined by International Standards Organization's latest version of ISO 22241. "Diesel engines - NOx reduction agent AUS 32."

2.XX.1.2. Marking Requirements. – With the exception of on-vehicle storage tanks designed for use in a vehicle's emissions control system, any diesel exhaust fluid retail package, storage container, or point-of-sale delivery apparatus, delivery invoice and/or receipt shall contain the following:

2.XX.1.2.1. A statement identifying the fluid as DEF conforming to specifications given in the latest version of ISO 22241.

2.XX.1.2.2. With the exception of point-of-sale delivery apparatus, identification of the fluid's origin including the name of the fluid manufacturer, brand name, trade name, or trademark, as provided in the latest version of ISO 22241-3.

2.XX.1.2.3. Any diesel exhaust fluid retail package or storage container shall have the following statement, "It is recommended to store DEF between 23 °F to 77 °F (– 5 °C to 25 °C)."

2.XX.1.3. Marking Placement. – Markings on any diesel exhaust fluid retail package or storage container required by 2.XX.1.2. shall be clearly visible, legible and printed on, tagged with, or otherwise affixed to a surface, other than the bottom, of the required package, or container.

2.XX.1.4. Bulk Deliveries. – A carrier that transports or accepts for transportation any bulk shipment by tank truck, freight container, cargo tank, railcar, or any other vehicle used to transport or deliver bulk quantities of DEF is exempt from the labeling requirements of Section 2.XX.1.2. Marking Requirements, provided, however, that the information required by Section 2.XX.1.2. Marking Requirements, appears on the shipment bill of lading or other form of documentation accompanying the shipment.

NCWM 2014 Interim Meeting: A representative with API provided FALS with modified language. This language addresses the regional concerns regarding the clarity of the language and providing for retail dispenser labeling. This modification also expanded the recommended temperature ranges and is consistent with the ISO Method. FALS concurs with the changes and submitted the changes to the Committee recommending it as a Voting item.

NCWM 2014 Annual Meeting: An API representative supported this item and supports a provision for an effective date of January 2016. The Committee agreed to modify the language in its Interim Report to that shown in this Final Report in the Item Under Consideration.

Regional Association Comments:
In the fall of 2013, CWMA forwarded the item to NCWM recommending it as a Voting item. An ISO specification currently exists for this product, and quality assurance is important. At the 2014 CWMA Annual Meeting, the Committee was informed that there is a companion Item 237-10. An industry representative supports both items. A regulator has been working through the ASTM process to develop a specification for this product, but ASTM has decided to not pursue it. Consequently, he urges support and passage of this item. After discussion among the attendees, consensus was reached that an implementation date of one year after passage would allow sufficient time for the regulated industry to comply. The Committee is also recommending a proposed effective date be placed into the item that reflects an effective date of one year after publication. The Committee believes a specification for this product is important, since ASTM is not going to develop a specification, this item should move forward as a Voting item.

WWMA heard from an API representative regarding Items 232-6 and 232-7 simultaneously. The API representative explained there is no definition for DEF. He also stated the sale of DEF will continue to increase in the marketplace, as it is in use on all selective catalytic reduction diesel vehicles. He further stated the method to manufacture DEF may differ, but the standard remains the same for all DEF products and purity is important. The FALS Chairman stated that ASTM does not have a specification, so the ISO specification is appropriate and would recommend this as a Voting item. An industry representative from Gilbarco spoke to whether current receipt technology has the capability to print all required information. An industry representative expressed concern regarding temperatures requirements due to storage locations outside the specified range. The Committee supports this item and would like clarification in regards whether current receipt technology (dispenser) can accommodate proposed requirements. WWMA forwarded this item to NCWM and recommended it as an Informational item.

NEWMA heard a comment from the submitter that adding Diesel Exhaust Fluid (DEF) to NIST Handbook 130, including defining DEF and outlining marking requirements would provide information to consumers of DEF. NEWMA forwarded the item to NCWM, recommending that it be a Developing item. At the 2014 NEWMA Annual Meeting, the Committee believed this item is fully developed and recommended it as a Voting item.

SWMA forwarded the item to NCWM, recommending it as a Developing item to further address the concerns of quality statements on receipts and dispensers.

Additional letters, presentations, and data may have been part of the Committee's consideration. To review the supporting documentation, please refer to the *Report of the 98th National Conference on Weights and Measures* [SP 1171, 2013].

232-8 V Section 2.20. Gasoline-Oxygenate Blends

(This item was Adopted.)

This information was not published within Publication 16, Committee Reports for the 99th Annual Meeting. This item is an editorial change recommended by FALS and approved by the Committee. There is a companion Item 237-7, 3.2.7 Documentation for Dispenser Labeling Purposes.

Source:
Archer Daniels Midland Company (2014)

Purpose:
Update the information for documentation for dispenser labeling purposes in the method of sale section of the *Uniform Regulation of the Method of Sale of Commodities* in NIST Handbook 130. This update will recognize the EPA regulations for product transfer documents for gasoline and gasoline/oxygenate blends.

Item under Consideration:
Amend NIST Handbook 130, Uniform Regulation for the Method of Sale of Commodities as follows:

2.20. 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 0.15 mass percent oxygen from 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 (½ in) in height, 1.5 mm (1/16 in) stroke (width of type).

(Amended 1996)

2.20.2. Documentation for Dispenser Labeling Purposes. – ~~**At the time of delivery of the fuel, the retailer shall be provided, on an invoice, bill of lading, shipping paper, or other documentation a declaration of the predominant oxygenate or combination of oxygenates present in concentrations sufficient to yield an oxygen content of at least 1.5 mass percent 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." In addition, any gasoline containing more than 0.15 mass percent oxygen from methanol shall be identified as "with" or "containing" methanol. This documentation is only for dispenser labeling purposes; it is the responsibility of any potential blender to determine the total oxygen content of the engine fuel before blending.**~~ **The retailer shall be provided, at the time of delivery of the fuel, on product transfer documents such as an invoice, bill of lading, shipping paper, or other documentation:**

(a) Information that complies with 40 CFR § 80.1503 when the fuel contains ethanol.

(b) For fuels that do not contain ethanol, information that complies with 40 CFR § 80.1503 and a declaration of the predominant oxygenate or combination of oxygenates present in concentrations sufficient to yield an oxygen content of at least 1.5 mass percent 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."

(c) Gasoline containing more than 0.15 mass percent oxygen from methanol shall be identified as "with" or "containing" methanol.

(Amended 2014)

(Added 1984) (Amended 1985, 1986, 1991, ~~**and**~~ 1996**, and 2014**)

Background/Discussion:
NCWM 2014 Annual Meeting: Mr. Chuck Corr, submitter of this item, informed the Committee that a companion item under the Fuels and Lubricants Regulation, Item 237-7 was submitted and there needs to be a corresponding Method of Sale. The Committee agreed that a method of sale needed to proceed in tandem with Item 237-7.

The proposal incorporates existing EPA regulations.

Additional letters, presentations, and data may have been part of the Committee's consideration. To review the supporting documentation, please refer to the *Report of the 98th National Conference on Weights and Measures* (SP 1171, 2013).

237 NIST HANDBOOK 130 – UNIFORM ENGINE FUELS AND AUTOMOTIVE LUBRICANTS REGULATION

237-1 W Section 1. Definitions - Diesel Liter Equivalent (DLE) and Diesel Gallon Equivalent (DGE)

(This item was Withdrawn.)

Source:
Clean Vehicle Education Foundation (2013)

Purpose:
Enable consumers to make cost and fuel economy comparisons between diesel fuel and natural gas.

Item Under Consideration:
Amend NIST Handbook 130, Engine Fuels and Automotive Lubricants Regulation as follows.

Section 1. Definitions

1.XX. Diesel Liter Equivalent (DLE). – means 0.756 kg of natural gas.
(Added 20XX)

1.XX. Diesel Gallon Equivalent (DGE). – means 2.863 kg (6.312 lb) of natural gas.
(Added 20XX)

Background/Discussion:
The gasoline gallon equivalent (GGE) unit was defined by NCWM in 1994 (refer to Appendix A) to allow users of natural gas vehicles to readily compare costs and fuel economy of light-duty natural gas vehicles with equivalent gasoline powered vehicles. For the medium and heavy duty natural gas vehicles in widespread use today, there is a need to officially define a unit (already in widespread use) allowing a comparison of cost and fuel economy with diesel powered vehicles. Also natural gas sold as a vehicle fuel is sold either as Compressed Natural Gas (CNG) or Liquefied Natural Gas (LNG) and each method of sale in measured in mass. Therefore, the generic term for natural gas is proposed to be used in NIST Handbooks 44 and 130 without the existing term "compressed." The mathematics justifying the specific quantity (mass) of natural gas in a DLE and DGE is included in Appendix A.

The official definition of a DLE and a DGE will likely provide justification for California, Wisconsin, and any other state to permit retail sales of LNG for heavy-duty vehicles in these convenient units.

2013 NCWM Interim Meeting: A presentation in support of this item was given by Mr. Doug Horne (Clean Vehicle Education Foundation). Several comments were heard regarding the references and databases used to develop the calculations. Concern was expressed with the conversion factors used. A NIST S&T Technical Advisor recommends that L&R and S&T work in a joint session since there is a companion Item 337-1 on the S&T agenda. A collaborative effort between the L&R and S&T Committees will ensure that the proposed equivalent unit is dispensed accurately at the dispenser. Several attendees spoke in support of the collaborative effort. The Committee will request the NCWM Board of Directors create a steering committee that consists of experts and stakeholders to review this proposal. L&R will prepare a list of comments that they would like the Steering Committee to review and address. The L&R Committee recommends this as Informational item.

NCWM 2013 Annual Meeting: The Committee was informed that the Natural Gas Steering Committee chaired by Mahesh Albuquerque would be reviewing this item. At the 2014 NCWM Interim Meeting, Mr. Albuquerque (Chair, National Gas Steering Committee) notified the Committee this item was being withdrawn in its entirety. The submitter of this proposal sent in a modified proposal (Item 237-2) on this subject matter that will be further developed by the Steering Committee.

Regional Association Comments:
2012 CWMA Interim Meeting: A regulatory official commented that there is no standard for Diesel Gallon Equivalent (DGE), and LNG and CNG are being sold in Wisconsin and other states as DGE in order to compete with diesel sales. As a result, a standard is urgently needed. DGE sales are occurring in the marketplace without a standard. The Committee recommended that FALS review the conversion factors for DGE and LGE for accuracy. CWMA supported this item and forwarded the item to NCWM, recommending it as a Voting item.

CWMA 2013 Annual Meeting: It was reported that based on the comments received from a majority of states, the committee does not recommend the proposal as written. (See comments from Item 232-1.) CWMA recommends that this item be a Developing item.

WWMA's L&R Committee recommends that the item be further developed by submitter and amend the existing proposed language. WWMA recommended that the item be a Developing item.

NEWMA reviewed the CWMA comments from 2012. A General Motors representative indicated that there is a lot of discussion on a point of reference. It was commented that both methods of labeling may be required on a dispenser. The labeling issue may create more confusion for the consumer. NEWMA recommended further review by the FALS. NEWMA forwarded the item to NCWM recommending it as an Informational item. In 2013, NEWMA recommended that this item be an Informational item. See comments on Item 232-1.

SWMA recommended at their 2012 Annual Meeting a review by the FALS and forwarded the item to NCWM recommending it as an Informational item. At the 2013 SWMA Annual Meeting the S&T and L&R Committees met in joint session to deliberate on the comments received, with discussion that the two committees should move in tandem and their efforts regarding Natural Gas issues should be harmonized. During that joint session a discussion took place on how to move forward on the Natural Gas items. The Committees received a handout from Mr. Brett Barry (Clean Energy) summarizing Natural Gas Vehicle Fuel DGE proposal. The SWMA recommended the item be Withdrawn from the NCWM agenda as the submitter they would reintroduced to the Conference as two separate items.

Additional letters, presentations, and data may have been part of the Committee's consideration. To review the supporting documentation, please refer to the *Report of the 98th National Conference on Weights and Measures* (SP 1171, 2013).

237-2 V Section 1. Definitions - Diesel Liter Equivalent (DLE) and Diesel Gallon Equivalent (DGE): Compressed Natural Gas, Section 1. Definitions - Diesel Liter Equivalent (DLE) and Diesel Gallon Equivalent (DGE): Liquefied Natural Gas, Section 3.11. Compressed Natural Gas (CNG) and Section 3.12. Liquefied Natural Gas (LNG)

(This item was returned to Committee.)

Source:
Clean Vehicle Education Foundation (2013)

Purpose:
Enable consumers to make cost and fuel economy comparisons between diesel fuel and natural gas.

Item under Consideration:
Amend NIST Handbook 130, Uniform Engine Fuels and Automotive Lubricants Regulation as follows:

Section 1. Definitions

1.XX. Diesel Gallon Equivalent (DGE). – means 6.384 lb of compressed natural gas or 6.059 lb of liquefied natural gas.

1.XX. Diesel Liter Equivalent (DLE). – means 0.765 kg of compressed natural gas or 0.726 kg of liquefied natural gas.

1.25. Gasoline Gallon Equivalent (GGE). – **means** 2.567 kg (5.660 lb) of **compressed** natural gas.

1.26. Gasoline Liter Equivalent (GLE). – **means** 0.678 kg (1.495 lb) of **compressed** natural gas.

1.35. Liquefied Natural Gas (LNG). – Natural gas **which is predominantly methane** that has been liquefied at ~~126.1~~ **162** °C (– ~~259~~**260** °F) **at 14.696 PSIA** and stored in insulated cryogenic tanks for use as an engine fuel.

Section 3. Classification and Method of Sale of Petroleum Products

3.11. Compressed Natural Gas (CNG).

3.11.1. How Compressed Natural Gas is to be Identified. – For the purposes of this regulation, compressed natural gas shall be identified by the term "Compressed Natural Gas" or "CNG."

3.11.2. Retail Sales of Compressed Natural Gas Sold as a Vehicle Fuel.

3.11.2.1. Method of Retail Sale. – All CNG kept, offered, or exposed for sale or sold at retail as a vehicle fuel shall be **measured** in terms of **mass, and indicated in** the gasoline liter equivalent (GLE)**,** gasoline gallon equivalent (GGE)**, diesel liter equivalent (DLE), or diesel gallon equivalent (DGE) units**.

3.11.2.2. Retail Dispenser Labeling.

3.11.2.2.1. Identification of Product. – Each retail dispenser of CNG shall be labeled as "Compressed Natural Gas."

3.11.2.2.2. Conversion Factor. – All retail CNG dispensers shall be labeled with the **equivalent** conversion factor in terms of kilograms or pounds. The label shall be permanently and conspicuously displayed on the face of the dispenser and shall have either the statements "1 Gasoline Liter Equivalent (GLE) is **Approximately Equal** to 0.678 kg of Natural Gas" **and "1 Diesel Liter Equivalent (DLE) is Approximately Equal to 0.765 kg of Compressed Natural Gas"** or **the statements** "1 Gasoline Gallon Equivalent (GGE) is **Approximately E**qual to 5.660 lb of **Compressed** Natural **Gas" and "1 Diesel Gallon Equivalent (DGE) is Approximately Equal to 6.384 lb of Compressed Natural Gas**" consistent with the method of sale used.

3.11.2.2.3. Pressure. – CNG is dispensed into vehicle fuel containers with working pressures of 20 684 kPa **(3000 psig),** or 24 821 kPa **(3600 psig)**. The dispenser shall be labeled 20 684 kPa **(3000 psig)**, or 24 821 kPa **(3600 psig)** corresponding to the pressure of the CNG dispensed by each fueling hose.

3.11.2.2.4. NFPA Labeling. – NFPA Labeling requirements also apply. (Refer to NFPA 52.)

3.11.2.2.5. Automotive Fuel Rating. – CNG automotive fuel shall be labeled with its automotive fuel rating in accordance with 16 CFR Part 309.

3.11.3. Nozzle Requirements for CNG. – CNG fueling nozzles shall comply with ANSI/AGA/CGA NGV 1.

3.12. Liquefied Natural Gas (LNG).

3.12.1. How Liquefied Natural Gas is to be Identified. – For the purposes of this regulation, liquefied natural gas shall be identified by the term "Liquefied Natural Gas" or "LNG."

3.12.2. ~~Labeling of Retail Dispensers of~~ Retail Sales of Liquefied Natural Gas Sold as a Vehicle Fuel.

3.12.2.1. Method of Retail Sale. – All LNG kept, offered, or exposed for sale or sold at retail as a vehicle fuel shall be measured in mass, and indicated in diesel liter equivalent (DLE) or diesel gallon equivalent (DGE) units.

3.12.2.2. Retail Dispenser Labeling.

3.12.2.2.1. Identification of Product. – Each retail dispenser of LNG shall be labeled as "Liquefied Natural Gas."

3.12.2.2.2. Conversion Factor. – All retail LNG dispensers shall be labeled with the equivalent conversion factor in terms of kilograms or pounds. The label shall be permanently and conspicuously displayed on the face of the dispenser and shall have either the statement "1 Diesel Liter Equivalent (DLE) is Approximately Equal to 0.726 kg of Liquefied Natural Gas" or "1 Diesel Gallon Equivalent (DGE) is Approximately Equal to 6.059 lb of Liquefied Natural Gas" consistent with the method of sale used.

3.12.2.2.3. Automotive Fuel Rating. – LNG automotive fuel shall be labeled with its automotive fuel rating in accordance with 16 CFR Part 306.

3.12.2.2.4. NFPA Labeling. – NFPA Labeling requirements also apply. (Refer to NFPA **52.**)

Background/Discussion:
The gasoline gallon equivalent (GGE) unit was defined by NCWM in 1994 (refer to Appendix A) to allow users of natural gas vehicles to readily compare costs and fuel economy of light-duty compressed natural gas vehicles with equivalent gasoline powered vehicles. For the medium and heavy duty natural gas vehicles in widespread use today, there is a need to officially define a unit (already in widespread use) allowing a comparison of cost and fuel economy with diesel powered vehicles. The submitter stated that the official definition of a DLE and a DGE will likely provide justification for California, Wisconson, and many other states to permit retail sales of CNG for heavy-duty vehicles in these convenient units. The mathematics justifying the specific quantity (mass) of compressed natural gas in a DLE and DGE is included in the Appendix.

NCWM 2014 Interim Meeting: Mr. Albuquerque (Chair, National Gas Steering Committee) notified the Committee that this item was actively being developed by the National Gas Steering Committee (NGSC).

The L&R Committee is responded to the NGSC's June 10, 2014, request to change the NGSC's March 2014 recommendation for DGE units.

The L&R Committee agreed that the CNG and LNG conversion factors proposed for use in converting these gases to DGE units should be revised in the 2014 Interim Report so that their numerical values are expressed to three decimal places rather than two decimal places. These changes are reflected in the following proposed modifications to Section 1. Definitions 1.XX, and to the proposed new definition for "diesel gallon equivalent" to read "1 Diesel Gallon Equivalent (DGE) is ~~6.380~~ 6.384 pounds of Compressed Natural Gas and 1 Diesel Gallon Equivalent of Liquefied Natural Gas is ~~6.060~~ 6.059 pounds."

NCWM 2014 Annual Meeting: A joint session was held with L&R and S&T Committees to hear this item. It was noted that if the Committee did not move Item 232-3 forward then there would be no reason to proceed with Item 237-2 and S&T Committee Item 337-2. There was discussion regarding the term "approximately equal" found in Sections 2.27.2.2. and 2.27.2.4. It was noted this term was not a measurement equivalency but refers to energy content. It was recommended that the Committee give consideration to amend the definition and clarify the meaning. Some spoke in opposition that this item would cause consumer confusion in the marketplace, if adopted. Several members questioned where the IRS obtained the numbers that are used in the IRS tax form. NIST provided an alternative proposal to this item, and several members believed this proposal should be taken into consideration. Since the proposal from the NGSC was not released until June 10, 2014, members felt they did not have enough time to vet the modification or the NIST proposal. The Committee reviewed numerous letters in support of all the items that related to the sale of natural gas as vehicle fuel.

March 2014 Natural Gas Steering Committee Report to the L&R and S&T Committees

The Natural Gas Steering Committee (NGSC) was formed in July 2013 to help understand and educate the NCWM membership regarding the technical issues surrounding the proposed changes to NIST Handbooks 44 and 130 submitted by the Clean Vehicle Education Foundation (CVEF), the anticipated impact of the proposed changes, and issues related to implementation requirements when compressed natural gas (CNG) and liquefied natural gas (LNG) are dispensed and sold as a retail engine fuel in gallon equivalent units.

NCWM 2014 Interim Meeting: Mr. Albuquerque, Chair of the NGSC provided the S&T and L&R Committees with an update from the NGSC, including proposed revisions to the proposals submitted by the CVEF. The NGSC heard comments from the floor related to the proposed revisions and requested additional time to further develop its recommendations. The S&T and L&R Committees agreed to allow the NGSC additional time to meet and develop alternative proposals to those on the S&T and L&R Committees January 2014 agendas, with the expectation that the NGSC recommendations would be ready for inclusion in Publication 16, and moved forward as a Voting item at the July 2014 NCWM Annual Meeting.

Summary of NGSC Meeting Discussions

The NGSC met weekly following the January 2014 Interim Meeting, and focused on modifying the Clean Vehicle Education Foundation (CVEF) 2013 proposals for the recognition of diesel gallon equivalent (DGE) units for CNG/LNG dispenser indications and the method of sale for these two natural gas alternative engine fuels. The NGSC reviewed multiple modifications to those proposals including:

- limiting sales to a single unit of mass measurement enforceable by 2016;
- requiring indications in mass and gasoline and diesel gallon equivalents, while phasing in mass only units;
- require sale by mass as the primary means, but allow for the simultaneous display of volume equivalent units, so long as the purchaser always had access to the mass (traceable) measurement; and
- a proposal from NIST OWM which would allow the posting of supplemental information to assist consumers in making value comparisons and for use by taxation/other agencies, but requiring the phase in of indications in mass.

The NGSC received:

- input from DOE on the latest edition of the *DOE Transportation Energy Data Book: Edition 32,* July 2013 available on the Oak Ridge National Laboratory website at: http://cta.ornl.gov/data/index.shtml;
- updates from CNG (3) and LNG (1) dispenser manufacturers indicating their dispensing systems comply with the requirements in the handbooks, and have the capability to indicate a sale in a single unit of measurement, and any further input on adding displays to the cabinet for additional units would require further cost analysis; while one OEM indicated use of their LNG RMFD in a fleet operation where indications are only in the DGE; and
- feedback from committee members related to the pros and cons of requiring the indication of sale in mass or gallon equivalent units, including traceability, equipment capabilities, marketplace considerations, and units used by state and federal agencies.

Also noted in the NGSC discussions were:

- how a gallon equivalent unit is derived using energy content, and that the gallon equivalent is defined and measured in terms of mass, not volume;
- for the last 20 years, NIST Handbooks 44 and 130 have required all dispensing equipment to indicate deliveries of natural gas in GGE units to consumers, and in mass units for inspection and testing purposes. CNG RMFD equipment in the most states comply with the requirements in the handbooks;
- international practices for indicating CNG and LNG engine fuel deliveries are predominantly mass; Canada requires LNG indications in the kilogram and the corresponding OIML R 139 "Compressed gaseous fuel measuring systems for vehicles" standard requires indication of the measured gas in mass;
- the variations in engine efficiency relative to a single conversion factor based on an averaged energy content for LNG and the primary focus of the driving public and fleets on mileage rather than petroleum products no longer used to fuel their vehicles;
- the work ahead over the next year by ASTM committees to develop current CNG and LNG fuel quality standards which will need to be referenced in NIST Handbook 130;
- differences in the measurement of the gallon and kilogram – since the gallon is a volume measurement and not an energy measurement, and the NIST Handbook 44 Mass Flow Meters Code includes a requirement for volume-measuring devices with ATC used in natural gas applications to be equipped with an automatic means to make corrections; if the devices is affected by changes in the properties of the product, it was also noted that U.S. gasoline and diesel dispensers are not required to have ATC; whereas, ATC does occur in sales at the wholesale level;
- how traceability applies to the measurement results at each level of the custody chain (to include the determination of the uncertainty of all calibrations and use of an appropriate unit of measurement); and
- the capabilities of equipment in the marketplace.

A DOE representative supported the use of gallon equivalents, and pointed out that they are used in the *DOE Transportation Energy Data Book*. The DOE representative also pointed out that other federal agencies including the IRS were requiring use of gallon equivalent units for reporting.

Industry representatives on the NGSC indicated that they are actively campaigning to their state and federal offices, encouraging each government branch to recognize sales of CNG and LNG in gasoline and diesel volume equivalent units. Industry sectors represented on the NGSC indicated that their customers are satisfied with the averaged fuel energy values that correspond to the conversion factors for CNG and LNG, with only one exception. The exception was a truck stop chain indicating their customers would be amenable to a single conversion factor for both fuels. The CVEF also provided a comparison of GTI's 1992 study results and preliminary data from a 2013 study. The CVEF reported the constituents in natural gas as basically unchanged over 21 years since the NCWM first recognized the GGE. Industry unanimously opposed a recommendation for phasing in mass as the only unit of measurement, noting also that U.S. drivers would be confused by SI units while acknowledging that the United States is in the minority of countries whereby delivery and sales are by equivalent units. At the conclusion of the NGSC deliberations, NGVAmerica provided the following statement:

> "One of the major advantages of the proposal as currently drafted with inclusion of the DGE and GGE units for natural gas is that this is a proposal that the natural gas industry can support. It further recognizes what is already the preferred practice for how natural gas is measured and dispensed. The latest proposal with DGE and GGE units provides a pathway forward toward a national consensus approach. If the proposal were to instead require use of kilograms or even pounds as the primary method of sale, industry would not support that proposal and likely would strongly oppose it this summer if NCWM were to consider it as a voting issue. Also, if NCWM finalizes on a standard that does not include DGE or GGE, industry is committed to pursuing adoption of an alternative standard on a state by state basis, which could lead to different treatment across the country. Several states have already introduced legislation to recognize the DGE standard (CA, IL, MO, and VA) and I expect more will do so later this year. And you know Colorado and Arkansas already have put in place standards that recognize the DGE units."

NGSC Recommendations:
After consideration of all of the above, the NGSC recommends alternate proposals to the L&R and S&T Committee Agenda items which further modify and consolidate the Clean Vehicle Education Foundation 2013 proposals to include:

1. requirements for measurement in mass and indication in gallon equivalent units (NIST Handbook 44 paragraphs S.1.3.1.1. and S.1.3.1.2.; and NIST Handbook 130 paragraphs 3.11.2.1. and 3.12.2.1.);
2. posting of a label that has both the GGE and DGE or the GLE and DLE for CNG applications (NIST Handbook 44 paragraphs S.5.2., S.5.3., UR.3.1.1., and UR.3.1.2; and NIST Handbook 130 paragraphs 3.11.2.2.2. and 3.12.2.2.2.);
3. expression of all equivalent conversion factors expressed in mass units to 3 significant places beyond the decimal point for consistency (NIST Handbook 44 paragraphs S.5.2., S.5.3., UR.3.1.1., and UR.3.1.2 and Appendix D and NIST Handbook 130 Section 1, paragraphs 3.11.2.2.2. and 3.12.2.2.2.);
4. correction of the temperatures in the LNG definition (NIST Handbook 130 Section 1);
5. addition of 16 CFR Part 309 for CNG automotive fuel rating (NIST Handbook 130 paragraph 3.11.2.2.5.); and
6. reference to NFPA 52 (NIST Handbook 130 paragraph 3.12.2.2.4.).

With regards to NIST Handbook 44, the NGSC recommends withdrawing S&T Agenda Items 337-1 and 337-4 and the consolidation of agenda Items 337-2, 337-3, and 337-5 into a newly revised single Voting item designated as Item 337-2. The NGSC also recommends further modifications to corresponding NIST Handbook 130 prosposals to align the definitions of related terms and method of sale with definitions, indicated delivery and dispenser labeling requirements being proposed for NIST Handbook 44.

With regards to NIST Handbook 44, the NGSC also recommends consideration of a new Developing item addressing proposed changes to paragraph S.3.6. Automatic Density Correction designated as Item 360-4. This new proposal is consistent with the NGSC decision to encourage further work beyond the current scope of their work on the CVEF's proposals to fully address all LNG applications.

Representatives of the NGSC and the S&T and L&R Committees met in March 2014, all agreed on the course of action outlined above.

Additional Contacts: Clean Energy, Seal Beach, CA, NGVAmerica, Washington, DC, Clean Vehicle Education Foundation, Acworth, GA. Regional Association Comments: (Fall 2013 Input on the Committee's 2014 Interim Agenda Items 337-1 through 337-5).

With regards to NIST Handbook 130 the NGSC recommends withdrawing L&R agenda Item 237-1 and the consolidation of agenda Items 237-2, 237-3, and 237-5 into newly revised single Voting item designated as Item 237-1 of this report.

Regional Association Comments:
2014 CWMA Interim Meeting: Comments were made that is item is a duplicate of Item 237-1 with the exception of the conversion factors, which need to be updated in Item 237-1. Based on this, the Committee recommends this item to be Withdrawn. CWMA did not forward this item to NCWM.

2014 CWMA Annual Meeting: The Committee heard comments on this item in conjunction with Item 237-2 and S&T Item 337-2. Main points included in the testimony included: an industry representative stated that gaining consensus on these proposals provides the best chance to develop a uniform national standard. Currently, there are legislative bills in six states supporting DGEs and similar activity in many other states including a letter of support with 54 signatures from Congress. An industry representative commented his membership supports the concept, but expressed concern over a discrepancy with equivalencies between the Internal Revenue Service (IRS) definition (126.67 cu ft per gal) and the steering group's proposal (123 cu ft gal). He expressed concern that the industry feels these differences must be reconciled, or they will be faced with confusion between the two standards. A second

industry representative agreed. A regulator, who served on the steering group, commented that some members of the steering group attempted to allow for dual declarations on dispensers, using the mass standard as the primary value. He fears adding multiple new standards will add to the confusion. He further stated he had no objection to supplemental language, but traditional mass unit should be the primary unit.

A NIST Technical Advisor commented there are currently seven different types of fuels; and asked if they should all have gasoline gallon equivalents. A parallel example was provided of selling paint on a square foot wall coverage equivalent. Would weights and measures consider it a viable method of sale?

An industry representative commented that multiple unit pricings could cause confusion, and there were concerns about retrofitting old equipment to allow for multiple unit pricings. He further stated labels are the mechanism by which we convey mass measurement. This same industry representative commented that some say GGE should have never been adopted. He asked the Conference how they thought it had not worked in the marketplace. Another regulator stated that natural gas engines are not diesel engines. When posting price equivalence, consumers could be misled or confused as to the energy comparison versus the price comparison.

A NIST representative stated a consumer should be aware of what is being measured, and the measure be accurate. A regulator asked the Conference to recall consideration of equity and uniformity statements in the past. He gave examples of previous items that were artificial declarations and were rejected by the Conference. Examples included "lasts the same as," "burns longer than," "equivalent to…etcetera." A regulator stated in most cases, natural gas has been sold in fleets, so the cost per mile factor has been calculated internally. Sales are now increasing at public fueling locations, so when selling fuel with equivalencies, we are getting into marketing rather than weights and measures functions.

CWMA L&R and S&T Committees met jointly in a working session, and concur the items have merit, but questions and concerns over accuracy of this final proposal still remain. Both Committees agreed to move the item forward as an Informational item. During the L&R Committee's work session, discussion took place regarding the inconsistency in language in the method of sale in L&R Item 232-3, Section 2.27.2. compared to the method of sale with L&R Item 237-2, Section 3.11.2.1. Additionally, the Committee discussed the importance of including the same number of significant digits in the conversions specified in the DGE and DLE equivalent values. The Chairman of the CWMA L&R Committee will communicate these two concerns to the Chairman of the NCWM Natural Gas Steering Committee.

WWMA reported that two regulatory officials voiced support for method of sale by mass and see no value in using equivalents. The Committee recommends this item be Withdrawn and for the submitter to incorporate the pertinent information into Item 237-1. WWMA did not forward this item to NCWM.

2014 NEWMA Annual Meeting: The Committee heard comments on this item in conjunction with S&T Item 337-2. There was a lot of good discussion on the item with numerous comments from both industry and regulatory officials. A summary of the comments are as follows:

- GGE and GLE are already established measurements in the marketplace for CNG.
- If the product is measured in mass, it should be sold in mass.
- Equivalents are not an exact number.
- Consumers have done homework before they buy.
- There's wide support from industry to expand GGE to other fuels.
- CNG is taxed at the federal level based on gallon equivalent. It would be easier to tax by GGE.
- All the reasons heard in support of selling by equivalent units sound like marketing tools.
- NIST Handbook 130 is not a promotional tool! It is about the best way to measure.
- Some states have already adopted GGE or DGE as a method of sale for these alternative fuels.

- Clarify method of sale Section 2.27.2.1. to be consistent with Item 237-2; measured in mass and sold by volume.

Additional comments were heard during the S&T Committee Open Hearings suggesting the need to include the same number of significant digits in the conversions specified in the proposal for DGE and DLE values. For example, 6.380 and 6.060 contain four significant digits, whereas, 0.765 and 0.726 contain only three significant digits. A recommendation was made to the Committee that it determines whether or not the values specified are appropriate.

Due to the concerns expressed during the open hearings for both L&R and S&T Committees, NEWMA voted to recommend to the NCWM L&R and S&T Committees the status on the agenda items be changed to Informational.

SWMA recommended review by the FALS at the 2012 Annual Meeting and forwarded the item to NCWM, recommending it as an Informational item. At the 2013 SWMA Annual Meeting, the S&T and L&R Committees met in joint session to deliberate on the comments received, with discussion that the two Committees should move in tandem and their efforts regarding natural gas issues should be harmonized. During the joint session, discussion took place on how to move forward on the natural gas items. The Committees received a handout from Mr. Brett Barry (Clean Energy) summarizing Natural Gas Vehicle Fuel DGE proposal. The SWMA recommended the item be Withdrawn from the NCWM agenda as the submitter indicated it would be reintroduced as two separate items.

Additional letters, presentations, and data may have been part of the Committee's consideration. To review the supporting documentation, please refer to the *Report of the 98th National Conference on Weights and Measures* (SP 1171, 2013).

237-3 W Section 1. Definitions - Diesel Liter Equivalent (DLE) and Diesel Gallon Equivalent (DGE): Liquefied Natural Gas

(This item was Withdrawn.)

Source:
Clean Vehicle Education Foundation (2014)

Purpose:
Since liquefied natural gas (LNG) is sold in the retail market place as an alternative fuel to diesel fuel, the proposed additions and edits to NIST Handbook 44 will provide definitions for liquefied natural gas (LNG) equivalents for diesel liters and gallons so that end users can readily compare cost and fuel economy. At present no LNG equivalents for diesel are included in the handbooks.

Item under Consideration:
Amend NIST Handbook 130, Uniform Engine Fuels and Automotive Lubricants Regulation as follows:

Section 1. Definitions

1.XX. Diesel Liter Equivalent (DLE). – Means 0.7263 kg of liquefied natural gas.

1.XX. Diesel Gallon Equivalent (DGE). – Means 2.749 kg (6.06 lb) of liquefied natural gas.

Background/Discussion:
The gasoline gallon equivalent (GGE) unit was defined by NCWM in 1994 to allow users of compressed natural gas vehicles to readily compare costs and fuel economy of light-duty compressed natural gas vehicles with equivalent gasoline powered vehicles. For the medium and heavy duty liquefied natural gas (LNG) vehicles in widespread use today, there is a need to officially define a unit (already in widespread use) allowing a comparison of cost and fuel economy with diesel powered vehicles. The submitter stated that the official definition of a DLE and a DGE will likely provide justification for California, Wisconsin, and many other states to permit retail sales of LNG for heavy-

duty vehicles in these convenient units. The mathematics justifying the specific quantity (mass) of liquefied natural gas in a DLE and DGE is included in Appendix A.

NCWM 2014 Interim Meeting: Mr. Albuquerque (Chair, National Gas Steering Committee) notified the Committee that this item was being further reviewed by the National Gas Steering Committee. This item was subsequently Withdrawn and combined with Item 237-2.

Regional Association Comments:
CWMA reported that based on the comments received from a majority of states, the committee does not recommend the proposal as written. (See comments from Item 232-1.) CWMA forwarded this item to NCWM and recommended it as a Developing item.

WWMA's L&R Committee recommends this item be Withdrawn and the submitter to incorporate the pertinent information into Item 237-1. WWMA did not forward this item to NCWM.

NEWMA forwarded this item to NCWM and recommended that it be an Informational item. See comments on Item 232-1.

SWMA comments were in favor of moving the definitions forward. The S&T and L&R Committees met in joint session to deliberate on the comments with discussion that the two items should be harmonized and move in tandem. During the joint session, discussion took place on how to move forward on the Natural Gas items. The Committees received a handout from Mr. Brett Barry (Clean Energy) summarizing the Natural Gas Vehicle Fuel DGE proposal that contained current conversions. The SWMA is recommending it be an Informational item.

Additional letters, presentations, and data may have been part of the Committee's consideration. To review the supporting documentation, please refer to the *Report of the 98th National Conference on Weights and Measures* [SP 1171, 2013].

237-4 I Sections 2.1.3. Minimum Antiknock Index (AKI), Section 2.1.4. Minimum Motor Octane Number, and Section 3.2.5 Prohibition of Terms – Table 1.

Source:
General Motors (2013)

Purpose:
Remove obsolete Altitude De-rating of Octane practice, establish a National Octane Baseline, and harmonize Octane Labeling from state to state.

Item Under Consideration:
Amend the NIST Handbook 130, Engine Fuels and Automotive Lubricants Regulation as follows:

Section 2. Standard Fuel Specification

2.1.3. Minimum Antiknock Index (AKI). – **<u>The AKI of gasoline and gasoline-oxygenate blends shall not be less than 87.</u>** The AKI shall not be less than the AKI posted on the product dispenser or as certified on the invoice, bill of lading, shipping paper, or other documentation**.**

<u>(Amended 20XX)</u>

2.1.4. Minimum Motor Octane Number. – The minimum motor octane number shall not be less than 82. **~~for gasoline with an AKI of 87 or greater;~~**

<u>(Amended 20XX)</u>

Section 3. Classification and Method of Sale of Petroleum Products

3.2. Automotive Gasoline and Automotive Gasoline-Oxygenate Blends

3.2.5. Prohibition of Terms. – It is prohibited to use specific terms to describe a grade of gasoline or gasoline-oxygenate blend unless it meets the minimum antiknock index requirement shown in Table 1. Minimum Antiknock Index Requirements.

Table 1. Minimum Antiknock Index Requirements		
Term	**Minimum Antiknock Index**	
	~~**ASTM D4814 Altitude Reduction Areas IV and V**~~	**All ~~Other ASTM D4814~~ Areas**
Premium, Super, Supreme, High Test	~~**90**~~	91
Midgrade, Plus	~~**87**~~	89
~~**Regular Leaded**~~	~~**86**~~	~~**88**~~
Regular, Unleaded (alone)	~~**85**~~	87
~~**Economy**~~	~~**–**~~	~~**86**~~

(Table 1. Amended 1997 **and 20XX**)

Background/Discussion:
These NIST Handbook 130 octane changes will harmonize with an effort underway in the ASTM International (ASTM) Gasoline and Oxygenates Subcommittee to include a minimum motor octane number (MON) performance limit in gasoline. The naming of the various octanes is a function for weights and measures.

Nominally, vehicles manufactured after 1984 include engine computer controls maintaining optimal performance while using gasoline octane of 87-AKI or higher. The practice of altitude de-rating of octane, resulting in octanes below 87-AKI, reduces a vehicle's efficiency and fuel economy. Increasingly, more vehicles are boosted (turbocharged/supercharged) eliminating altitude intake air effects. Additionally, consumers using gasoline with an octane AKI below 87 will void their vehicle owner's warranty. The Coordinating Research Council (CRC) Report No. 660, "*Fuel Anti-knock Quality – Engine Response to RON (Research Octane Number) versus MON,*" May 2011 demonstrates the continued need for gasoline MON octane for the large bored, naturally aspirated U.S. engines. Setting an 82-MON minimum maintains the current MON level for today's 87-AKI Regular Unleaded gasoline. A common U.S. octane specification between ASTM, NCWM, and Vehicle Owners Manuals will give states clear direction on how best to enforce proper fuel pump octane labeling and quality levels on behalf of vehicle consumers.

Leaded gasoline is not available at retail and therefore labeling guidance is not needed.

NCWM 2013 Interim Meeting: The FALS could not reach agreement on this item during their Sunday work session. The Committee received and reviewed several letters in support of this proposal. During open hearings Mr. Bill Studzinski (General Motors) provided a presentation. The Committee also received comments in opposition to the proposal citing the lack of consumer complaints with sub-octane and it was requested that the Committee wait until the CRC study provides data that can be used by ASTM and NCWM to determine whether or not a change is necessary. The Committee recommends this to be an Informational item.

NCWM 2013 Annual Meeting: Mr. Hayes, FALS Chair provided a presentation and stated that the CRC study has been expanded and finalized data is expected by year end. It was also noted the ASTM ballot failed. The Committee concurs to await a recommendation from FALS once they have considered all the data. Additional letters, presentations, and data may have been part of the Committee's consideration.

NCWM 2014 Interim Meeting: Mr. Studzinski provided an update that the CRC study is almost finalized and then a ballot will be prepared for ASTM. Mr. Studzinski will have additional information for the 2015 NCWM Interim.

NCWM 2014 Annual Meeting: Mr. Curran, FALS Chair, remarked FALS is recommending this as an Informational item until the CRC study results are available. Mr. Studzinski provided a briefing of the work being done and a full report should be issued in the fall of 2014.

Regional Association Comments:
2013 CWMA's L&R Committee recommended this remain Informational pending receipt of additional data from the CRC study. At past meetings, the region has recommended this item be Voting in one instance, but more recently, have recommended it be Informational pending the outcome of the June 2013 ASTM ballot, which is related to octane. A regulatory official requested it be made clear that this would only apply to retail fuel sales. At the 2014 CWMA Annual Meeting, an industry representative commented that General Motors is conducting a study under the Coordinating Research Council (CRC) umbrella at altitude and sea levels analyzing fuel economy and emissions. The item should be balloted by ASTM in September and will be voted on at the December ASTM meeting. Additional information will be provided at the 2015 NCWM Interim meeting. The CWMA L&R Committee believes the item should remain Informational until the CRC results are finalized.

WWMA received comment from the FALS Chairman that the work group is addressing this issue and awaiting results from the CRC study in conjunction with ASTM, which is expected to be released in December 2013. FALS and one regulatory official support this item pending validation from the CRC study. One regulatory official strongly opposed this item due to significant potential negative economic impacts in his and other Rocky Mountain States. He suggested a ten year phase in period. WWMA recommended that this item be an Informational item.

In NEWMA 2012 received a presentation from Mr. Bill Studzinski (GM) summarizing the position of all the regions. NEWMA forwarded the item to NCWM recommending it as a Voting item. At NEWMA's 2013 Annual Meeting, they recommended the item remain Informational until FALS makes a recommendation to the Committee. At the 2013 NEWMA Interim Meeting, NEWMA members indicated that they would like to see the results of the CCR study and a FALS recommendation. NEWMA recommended that the item be an Informational item. At the 2014 NEWMA Annual Meeting, they are awaiting results from the CRC study and recommended this be an Informational item.

SWMA reported in 2012 that Mr. Studzinski (GM, Chair of a FALS Task Group, and ASTM) provided a presentation in support of this item at the 2012 SWMA Annual Meeting. The SWMA Committee acknowledged strong support from their Association. SWMA forwarded the item to NCWM recommending it as a Voting item. At the 2013 SWMA Annual Meeting, the Association supported this item remaining on the agenda as an Informational item pending a recommendation from FALS.

Additional letters, presentations, and data may have been part of the Committee's consideration. To review the supporting documentation, please refer to the *Report of the 98th National Conference on Weights and Measures* [SP 1171, 2013].

237-5 W Section 3.11. Compressed Natural Gas (CNG) and Section 3.12. Liquefied Natural Gas (LNG)

(This item was Withdrawn.)

Source:
Clean Vehicle Education Foundation (2014)

Purpose:
Since natural gas is sold in the retail market place as compressed natural gas (CNG) to be an alternative fuel to gasoline and diesel fuel and as liquefied natural gas (LNG) to be an alternative fuel to diesel, the proposed additions and edits to NIST Handbook 130 will provide definitions for natural gas equivalents for diesel liters and diesel

gallons so that end users can readily compare cost and fuel economy. At present, only CNG equivalents for gasoline are included in the handbooks.

Item under Consideration:
Amend NIST Handbook 130, Uniform Engine Fuels and Automotive Lubricants Regulation as follows:

3.11. Compressed Natural Gas (CNG)

3.11.2.1. Method of retail Sale. – All CNG kept, offered, or exposed for sale or sold at retail as a vehicle fuel shall be **either** in terms of: **~~the gasoline liter equivalent (GLE) or gasoline gallon equivalent (GGE).~~**

(a) Mass (in pounds or kilograms), or

(b) The gasoline liter equivalent (GLE) or gasoline gallon equivalent (GGE); or

(c) The diesel liter equivalent (DLE) or diesel gallon equivalent (DGE).

3.11.2.2. Retail Dispenser Labeling.

3.11.2.2.1. Identification of Product. – Each retail dispenser of CNG shall be labeled as "Compressed Natural Gas."

3.11.2.2.2. Conversion Factor. – All retail CNG dispensers shall be labeled with the conversion factor in terms of kilograms or pounds. The label shall be permanently and conspicuously displayed on the face of the dispenser and shall have **~~either the statement: "1 Gasoline Liter Equivalent (GLE) is equal to 0.678 kg of Natural Gas" or "1 Gasoline Gallon Equivalent (GGE) is equal to 5.660 lb of Natural Gas" consistent with the method of sale used~~**.

(a) either the statement "1 Gasoline Liter Equivalent (GLE) is equal to 0.678 kg of **Compressed** Natural Gas" or "1 Gasoline Gallon Equivalent (GGE) is equal to 5.660 lb of **Compressed** Natural Gas" consistent with the method of sale used; or

(b) either the statement "1 Diesel Liter Equivalent (DLE) is equal to 0.765 kg of Compressed Natural Gas" or "1 Diesel Gallon Equivalent (GGE) is equal to 6.38 lb of Compressed Natural Gas" consistent with the method of sale used.

3.11.2.2.3. Pressure. – CNG is dispensed into vehicle fuel containers with working pressures of **~~16 574 kPa~~**, 20 684 kPa **(3000 psig)** or 24 821 kPa **(3600 psig).** The dispenser shall be labeled **~~16 574 kPa,~~** 20 684 kPa **(3000 psig)** or 240821 kPa **(3600 psig)** corresponding to the pressure of the CNG dispensed by each fueling hose.

3.11.2.2.4. NFPA Labeling. – NFPA Labeling requirements also apply. (Refer to NFPA 52.)

3.12. Liquefied Natural Gas (LNG).

3.12.1. How Liquefied Natural Gas is to be Identified. – For the purposes of this regulation, liquefied natural gas shall be identified by the term "Liquefied Natural Gas" or "LNG."

3.12.2. Labeling of Retail Dispensers of Liquefied Natural Gas Sold as a Vehicle Fuel.

3.12.2.1. Identification of Product. – Each retail dispenser of LNG shall be labeled as "Liquefied Natural Gas."

3.12.2.2. Automotive Fuel Rating. – LNG automotive fuel shall be labeled with its automotive fuel rating in accordance with 16 CFR Part 306.

3.12.X.X. Method of Retail Sale. – All LNG kept, offered, or exposed for sale or sold at retail as a vehicle fuel shall be in terms of:

(a) mass (in pounds or kilograms); or

(b) the diesel liter equivalent (DLE) or diesel gallon equivalent (DGE).

(Added 20XX)

3.12.2.3. NFPA Labeling. – NFPA Labeling requirements also apply. (Refer to NFPA ~~57~~ **52**)

(Amended 20XX)

3.12.2.4. Conversion Factor. – All retail LNG dispensers shall be labeled with the conversion factor in terms of kilograms or pounds. The label shall be permanently and conspicuously displayed on the face of the dispenser and shall have:

(a) either the statement "1 Diesel Liter Equivalent (DLE) is equal to 0.7263 kg of Liquefied Natural Gas"; or

(b) "1 Diesel Gallon Equivalent (GGE) is equal to 6.06 lb of Liquefied Natural Gas" consistent with the method of sale used.

(Added 20XX)

Background/Discussion:
The gasoline gallon equivalent (GGE) unit was defined by NCWM in 1994 (refer to Appendix A) to allow users of compressed natural gas (CNG) vehicles to readily compare costs and fuel economy of light-duty natural gas vehicles with equivalent gasoline powered vehicles. For the medium and heavy duty natural gas vehicles in widespread use today, there is a need to officially define a unit for both CNG and LNG (already in widespread use) allowing a comparison of cost and fuel economy with diesel powered vehicles. Natural gas is sold as a vehicle fuel as either CNG or LNG and each method of sale is measured in mass. The submitter stated that the official definition of a DLE and a DGE will likely provide justification for California, Wisconsin, and many other states to permit retail sales of LNG for heavy-duty vehicles in these convenient units. The mathematics justifying the specific quantity (mass) of natural gas in a DLE and DGE is included in the Appendix A.

CNG is no longer dispensed at 16 574 kPa (2400 psig) in the United States so the requirement is no longer valid.

NFPA 57 was incorporate into NFPA 52 in 2006 and is no longer a stand alone document.

At the 2014 NCWM Interim Meeting, Mr. Albuquerque (Chair, National Gas Steering Committee) notified the Committee was developing this item and would provide a recommendation to the Committee. This item was subsequently withdrawn and combined with Item 237-2.

Regional Association Comments:
CWMA commented to stay consistent with the previous proposals for CNG and LNG; they are recommending this as a Developmental item. (See comments from Item 232-1.) CWMA forwarded this item to NCWM, recommending it as a Developing item.

WWMA heard concern from a regulatory official that the item would allow for multiple methods of sale in the marketplace which would be problematic. Another regulatory official agreed and added it would frustrate value comparison. The Committee awaits further information from the Natural Gas Steering Committee. WWMA forwarded this item to NCWM, recommending that it be an Informational item.

NEWMA forwarded this item to NCWM, recommending that it be an Informational item. See Item 232-1 for comments.

SWMA forwarded the item to NCWM, recommending it as a Developing item with the preferred method of sale for natural gas being by mass, allowing for supplemental labeling of conversion factors to convert mass to volume equivalents, and that the conversion factors be verified and clarified.

Additional letters, presentations, and data may have been part of the Committee's consideration. To review the supporting documentation, please refer to the *Report of the 98th National Conference on Weights and Measures* (SP 1171, 2013).

237-6 V Section 3.13. Oil, 3.13.1. Labeling of Vehicle Engine (Motor) Oil Required

(This item was Adopted.)

Source:
Automotive Oil Change Association (2013)

Purpose:
Prevent consumer confusion and government-sponsored product bias regarding legitimate, manufacturer recommended products, and to prevent installers and retailers from being held responsible for labeling requirements with respect to packaged goods.

Item Under Consideration:
Amend NIST Handbook 130, Engine Fuels and Automotive Lubricants Regulation as follows:

3.13. Oil.

3.13.1. Labeling of Vehicle Engine (Motor) Oil Required.

3.13.1.1. Viscosity. – The label on any vehicle engine (motor) oil container, receptacle, dispenser, or storage tank and the invoice or receipt from service on an engine that includes the installation of **bulk** vehicle motor oil dispensed from a receptacle, dispenser, or storage tank shall contain the viscosity grade classification preceded by the letters "SAE" in accordance with the SAE International's latest version of SAE J300, "Engine Oil Viscosity Classification."

(Amended 2012 **and 2014**)

~~**3.13.1.2. Intended Use. The label on any vehicle engine (motor) oil container shall contain a statement of its intended use in accordance with the latest version of SAE J183, "Engine Oil Performance and Engine Service Classification (Other than "Energy Conserving")."**~~
~~**(Amended 2012)**~~

3.13.1.~~3.~~2. Brand. – The label on any vehicle engine (motor) oil container and the invoice or receipt from service on an engine that includes the installation of **bulk** vehicle engine (motor) oil dispensed from a receptacle, dispenser, or storage tank shall contain the name, brand, trademark, or trade name of the vehicle engine (motor) oil.

(Added 2012)

3.13.1.~~4.~~3. Engine Service Category. – The label on any vehicle engine (motor) oil container, receptacle, dispenser or storage tank and the invoice or receipt from service on an engine that includes the installation of **bulk** vehicle engine (motor) oil dispensed from a receptacle, dispenser, or storage tank shall contain the engine service category, or categories, met in letters not less than 3.18 mm (1/8 in) in height, as defined by the latest version of SAE J183, "Engine Oil Performance and Engine Service Classification (Other than "Energy Conserving")," ~~**or**~~ API Publication 1509, "Engine Oil Licensing and Certification System," or **European Automobile Manufacturers Association (ACEA) European Oil Sequences or Vehicle or Engine Manufacturer Standard as provided in Section 3.33.1.3.1.**

(Amended 2012 **and 2014**)

3.33.1.3.1. Vehicle or Engine Manufacturer Standard. – The label on any vehicle engine (motor) oil container, receptacle, dispenser, or storage tank and the invoice or receipt from service on an engine that includes the installation of vehicle engine (motor) oil dispensed from a receptacle, dispenser, or storage tank shall identify the specific vehicle or engine manufacturer standard, or standards, met in letters not less than 3.18 mm (1/8 in) in height. If the vehicle (motor) oil only meets a vehicle or engine manufacturer standard, the label must clearly identify that the oil is only intended for use where specifically recommended by the vehicle or engine manufacturer.

(Added 2014)

3.13.1.4.~~12.~~3.2. Inactive or Obsolete Service Categories. – The label on any vehicle engine (motor) oil container, receptacle, dispenser, or storage tank and the invoice or receipt from service on an engine that includes the installation of vehicle engine (motor) engine oil dispensed from a receptacle, dispenser, or storage tank shall bear a plainly visible cautionary statement in compliance with the latest version of SAE J183, Engine Oil Performance and Engine Service Classification (Other than "Energy Conserving")" Appendix A, whenever the vehicle engine (motor) oil in the container or in bulk does not meet an active API service category as defined by the latest version of SAE J183, "Engine Oil Performance and Engine Service Classification (Other than "Energy Conserving")." **If a vehicle engine (motor) oil is identified as only meeting a vehicle or engine manufacturer standard, the labeling requirements in Section 3.13.1.3.1. Vehicle or Engine Manufacturer Standard apply.**

(Added 2012) **(Amended 2014)**

3.13.1.~~5.~~4. Tank Trucks or Rail Cars. – Tank trucks, rail cars, and types of delivery trucks that are used to deliver **bulk** vehicle engine (motor) oil are not required to display the SAE viscosity grade and service category or categories as long as the bill of lading other documentation provides that information.

(Added 2012) **(Amended 2014)**

3.13.1.~~6~~5. Documentation. – When the engine (motor) oil is sold in bulk, an invoice, bill of lading, shipping paper, or other documentation must accompany each delivery. This document must identify the quantity of **bulk** engine (motor) oil delivered as defined in Sections 3.13.1.1. Viscosity; **~~3.13.1.2. Intended Use;~~** 3.13.1.~~3~~2. Brand; 3.13.1.**~~4~~3**. Engine Service Category; the name and address of the seller and buyer; and the date and time of the sale. For inactive or obsolete service categories, the documentation shall also bear a plainly visible cautionary statement as required in Section 3.13.1.**~~4~~3.~~1~~2.** Inactive or Obsolete Service Categories**.** Documentation must be retained at the retail establishment for a period of not less than one year.

(Added 2013**) (Amended 2014)**

(Amended 2012 **and 2014**)

Background/Discussion:
The vast majority of engine oil used at professional fast lube facilities is the most current category of American Petroleum Institute (API) licensed oil. However, older, specialty, and some non-American vehicles take engine oil not listed as active under API's private regulatory scheme; some are former API licensed oils now considered "obsolete" or "inactive" and some are simply licensed by another organization like European Automobile Manufacturers Association (ACEA.) However, if the original equipment manufacturers (OEM) recommend those engine oils for their vehicles, consumers have a right to use them regardless of API's blessing, and installers and retailers should be able to sell them without obstruction. (See Appendix C of the *Report of the 98th National Conference on Weights and Measures* [SP 1171, 2013].)

The Automotive Oil Change Association (AOCA) amendment is necessary because a cautionary statement appearing on service receipts without explanation will inappropriately mislead consumers with older and uncommon model vehicles into believing they should not use OEM-recommended engine oil. The average fast lube customer does not recognize API or SAE (Society of Automotive Engineers) to mean anything in particular but "CAUTION" and "OBSOLETE" in big capital letters could only be understood as negative. Scaring consumers in this way will

not only push them to buy more expensive engine oil they do not need, but also engender distrust in their installer service providers for recommending and/or using OEM recommended engine oil.

The average age of cars in the current fleet is nearly 11-years old and it is not unusual for fast lubes to have customers with vehicles twice that age; for example, there are millions of opportunities for consumers to be misled into rejecting proper engine oil. The fact is American consumers are hanging onto their vehicles longer than API is hanging onto its service categories. When API designates a motor oil category as inactive, this does not mean consumers with vehicles designed to use that category turn in their cars or otherwise want to buy a more expensive grade of motor oil going forward. Therefore, a category of motor oil designed to work for particular makes and models of vehicles should not be burdened with the chilling effect of a cautionary statement absent a specific clarification acknowledging the preeminence of the OEM's recommendations.

The new standard phase-in factor must be considered as well. When API publishes a new edition of 1509, *Engine Oil Licensing and Certification Systems*, and/or creates a new service category, a reasonable phase-in period for bulk oil stock is necessary to accommodate older vehicle owners' needs; for example, it may be in those customers' best interests, both functionally and economically, to use motor oil developed in accordance with an earlier edition or service category so long as the automobile manufacturer originally recommended it and its continued use has no impact on any remaining warranty coverage. Although it is common for API to retain a couple of the most recent service categories as "active," API could choose to make all but the most recent service category "obsolete." For fast lube operators to automatically upgrade bulk oil stock at API-determined intervals would be tantamount to giving API control over the price of oil change services regardless of what the market can bear.

This amendment also addresses packaged engine oil products already on the shelf or in the distribution chain when API makes a unilateral decision to deactivate an engine oil category. As a practical matter, tens of thousands of retailers and installers cannot re-mark millions of packages to coincide with API's timing or take the financial hit for sending it all back in violation of purchase agreements. This amendment resolves this problem so that the requirement for proper labeling, of packaged containers, of engine oil rest with the party in control of the packaging-the manufacturers.

Without the amendment, the labeling requirement will be very difficult to enforce given the inventory of packaged goods remaining after an active engine oil category has been declared inactive or obsolete.

It was noted that fast lubes would experience catastrophic business loss if customers with older and uncommon model vehicles were alienated. Maintenance costs for consumers with older model cars could easily double if they are confused into believing they need the latest category of engine oil.

AOCA contends that the proposed amendment will accomplish three important goals: 1) prevent unintended consumer confusion and product stigma from using a cautionary statement by reestablishing the connection to OEM recommendations; 2) provide the necessary exemption to protect retailers and installers for selling lawful packaged inventory; and 3) which leads to an increase in practical enforcement prospects.

The most analogous regulatory situation to the one at issue in AOCA's proposed amendment is found in the Federal Trade Commission's (FTC) Test Procedures and Labeling Standards for Recycled Oil (16 CFR 31, www.gpo.gov/fdsys/pkg/CFR-2011-title16-vol1/pdf/CFR-2011-title16-vol1-part312.pdf). In the rulemaking process, FTC specifically rejected requiring recycled engine oil to be labeled "recycled" because of the stigma associated with the term at that time (see 72 FR 14410 – 14413 & FN11 (1 H.R. Rep. No. 96–1415, 96th Cong. 2d Sess. 6 (1980), reproduced at 1980 U.S. Code Cong. & Ad. News 4354, 4356. ''Oil should be labeled on the basis of performance characteristics and fitness for its intended use, and not on the basis of the origin of the oil.''). The National Automobile Dealers Association also commented in favor of this approach: "NADA further stated that by not requiring that ''substantially equivalent'' recycled oils be labeled ''recycled'' or ''re-refined,'' used oil processors are able to market their products effectively." (72 FR at 14411) No "recycled" or other potentially derogatory designation is required so long as the finished product meets the appropriate API standard.

NCWM 2013 Interim Meeting: A state opposed this item and would like to see it Withdrawn. The FALS Chairman remarked that there are several engine oils designed for specific model vehicles and the FALS is working to resolve

this issue. A Committee member remarked that a statement of accountability should be included in the language. The Committee would like to see additional language developed by FALS and made this an Informational item.

NCWM 2013 Annual Meeting: The FALS submitted modified language for Sections 3.13.1.4. Engine Service Category, 3.13.1.4.1. Vehicle or Engine Manufacturer Standard and 3.33.1.4.~~1~~**2.** Inactive or Obsolete Service Categories. The Committee would like to have regional input on this modified language to review at the 2014 NCWM Interim Meeting.

NCWM 2014 Interim Meeting: The FALS and API provided the Committee with modified language. This modified language removes Section 3.13.1.2. Intended Use. Section 3.13.1.1. was modified to allow for abbreviations on tickets. One member questioned the labeling for underground storage containers and their legibility.

2014 NCWM Annual Meeting: The Committee heard support for this item and agreed to modify the language in its Interim Report to that shown in this Final Report in the Item Under Consideration.

Regional Association Comments:
CWMA: Refer to comments in Item 232-3. CWMA recommended that this item be a Developing item. At the 2014 CWMA Annual Meeting, it was noted that this item has companion Items 232-4 and 237-11. An industry representative commented that he supported all items with an additional change to Item 237-11 (see Item 237-11). The Committee believes the item has been fully developed and is ready for Voting.

The WWMA heard from an American Petroleum Institute (API) representative that they supported the proposed changes to NIST Handbook 130 which are necessary for the following reasons: 1) adding the reference to ACEA will expand the current regulation to cover engine oil performance specifications recommended by many European vehicle and engine manufacturers; and 2) allowing engine oil labels, invoices and receipts to list a performance specification set by a particular vehicle or engine manufacturer will address unique situations where an oil cannot claim any performance level maintained by API or ACEA. The FALS Chairman reported that it is currently considering these changes, but have not reached consensus, and they are seeking a resolution by 2014 NCWM Interim. The Committee supports ongoing work by FALS, pending agreement with stakeholders. WWMA recommended that this item be an Informational item.

NEWMA received comment in 2012 from API it opposes the item and that specifics have been submitted in writing. API suggested this proposal and Item 237-4 be Withdrawn. General Motors indicated the proposal appears to allow older formulations of engine oil, but newer formulations give better performance, even in older vehicles. GM prefers current formulation of engine oil. NEWMA did not forward the item to NCWM. At the 2013 NEWMA Annual Meeting, Mr. Kevin Ferrick (API) indicated they submitted comments to their opposition of this item and requested this item be Withdrawn. NEWMA would like to see additional information from the FALS. In 2013, Mr. Ferrick commented to NEWMA that final language review should be made through FALS. No other comments were heard and NEWMA recommended this be an Information item. At the 2014 NEWMA Annual Meeting, with no other comments, the clarified language was recommended to be forwarded as a Voting item.

SWMA reported in 2012 that an API representative voiced opposition to the item and provided written testimony in dispute of the comments and claims made by the submitter: The SWMA Committee believed there was lack of support for the item and that the oil change industry has a poor understanding of the API standards. SWMA did not forward the item to NCWM. At the 2013 SWMA Annual Meeting, the association supported the carryover item being a Developing item on the NCWM agenda to allow FALS an opportunity to work on Section 3.33.1.4. in the proposal (which should be Section 3.13.1.4.) and to give consideration to adding the ACEA standards to the proposal.

Additional letters, presentations, and data may have been part of the Committee's consideration. To review the supporting documentation, please refer to the *Report of the 98th National Conference on Weights and Measures* (SP 1171, 2013).

237-7 V Section 3.2.7. Documentation for Dispenser Labeling Purposes

(This item was Adopted.)

Source:
Archer Daniels Midland Company (2014)

Purpose:
Update the information for documentation for dispenser labeling purposes in the method of sale section of the Uniform Engine Fuels and Automotive Lubricants regulations of NIST Handbook 130. This update will recognize the EPA regulations for product transfer documents for gasoline and gasoline/oxygenate blends.

Item under Consideration:
Amend NIST Handbook 130, Uniform Engine Fuels and Automotive Lubricants Regulation as follows:

3.2.7. Documentation for Dispenser Labeling Purposes. – The retailer shall be provided, at the time of delivery of the fuel, on product transfer documents such as an invoice, bill of lading, shipping paper, or other documentation:, ~~a declaration of the predominant oxygenate or combination of oxygenates present in concentrations sufficient to yield an oxygen content of at least 1.5 mass percent 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." In addition, any gasoline containing more than 0.15 mass percent oxygen from methanol shall be identified as "with" or "containing" methanol. This documentation is only for dispenser labeling purposes; it is the responsibility of any potential blender to determine the total oxygen content of the engine fuel before blending.~~

(Amended 1996 **and 2014**)

(a) Information that complies with 40 CFR § 80.1503 when the fuel contains ethanol.

(b) For fuels that do not contain ethanol, information that complies with 40 CFR § 80.1503 and a declaration of the predominant oxygenate or combination of oxygenates present in concentrations sufficient to yield an oxygen content of at least 1.5 mass percent 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."

(c) Gasoline containing more than 0.15 mass percent oxygen from methanol shall be identified as "with" or "containing" methanol.

(Added 2014)

Background/Discussion:
The proposal incorporates existing EPA regulations. NCWM 2014 Interim: Mr. Meeting Chuck Corr, submitter of this item, informed the Committee this new language now aligns with current EPA regulations. The Committee moved this item forward as a Voting item.

NCWM 2014 Annual Meeting: The Committee was informed by Mr. Matthew Curran, FALS Chair that if this item was adopted there needs to be a method of sale added with like language. Mr. Corr concurred with this modification for the method of sale and spoke in support of this item. The Committee agreed to modify the language in its Interim Report to that shown in this Final Report in the Item Under Consideration and added Item 232-8, under the Method of Sale.

Regional Association Comments:
NEWMA 2014 Annual Meeting: The Committee recommended this as a Voting item in order to harmonize with EPA regulations.

CWMA's L&R Committee supports this item as it provides recognition of federal requirements for product transfer documents. CWMA forwarded it to NCWM, recommending it as a Voting item. CWMA 2014 Annual Meeting: The submitter of this item stated that there should have been a companion item under Method of Sale of Commodities. The CWMA L&R Committee agrees that the item should include in the Method of Sale under Section 2.20.2. and is ready for Voting status.

Additional letters, presentations, and data may have been part of the Committee's consideration. To review the supporting documentation, please refer to the *Report of the 98th National Conference on Weights and Measures* (SP 1171, 2013).

237-8 V Section 4.3. Dispenser Filters

(This item returned to Committee.)

Source:
Missouri Department of Agriculture (2012)

Purpose:
Recognize the need for 10-micron or smaller nominal pore-sized filters for today's diesel engines.

Item Under Consideration:

4.3. Dispenser Filters.

4.3.1. Engine Fuel Dispensers.

(a) All gasoline, gasoline-alcohol blends, gasoline-ether blends, E85 fuel ethanol and M85 methanol dispensers shall have a 10 micron or smaller nominal pore-sized filter.

(b) All biodiesel, biodiesel blends, diesel, and kerosene dispensers shall have a ~~**30**~~ **10** micron or smaller nominal pore-sized filter **except for dispensers with flow rates greater than 15 gallons per minute which shall have a 30 micron or smaller nominal pore size filter.**

Background/Discussion:
Abnormal dispenser filter plugging at retail will alert the retailer of potential storage tank problems. Requiring 10-micron filters for all products will reduce the inventory and the potential of installing the wrong filter for all products at the same site.

NCWM 2012 Interim Meeting: Mr. Hayes, FALS Chair, informed the Committee that FALS recommended that this item be Informational because of industry concerns that 10-micron filters would be too restrictive of flow in high-flow systems. One industry representative expressed opposition for the use of 10-micron filters and recommends this item to be Withdrawn. A representative of an automobile manufacturer claimed diesel passenger vehicles do not have the sophisticated filtration systems commonly found on commercial duty vehicles and 10-micron filters on dispensers are needed for protection from particulate contamination. As proposed, this item could cause clogging of diesel dispenser filters in colder climates. The Committee believes this item has merit but lacks a consensus and also believes that FALS needs to address these concerns. The 2012 L&R Committee designated this item as an Informational item and assigned it to FALS for further development.

NCWM 2012 Interim Meeting: It was apparent to the Committee that that there are many unresolved issues related to passenger vehicles. The Committee encourages the FALS to continue developing this item.

NCWM 2012 Annual Meeting: Several stakeholders spoke in opposition on this item. Mr. Hayes, FALS Chair remarked that the FALS worked on this item in 2007 and believes FALS needs to continue to work on this item. The NCWM L&R Committee agreed that this item is not ready and supports the continued development by FALS.

NCWM 2013 Interim Meeting: Mr. Hayes (Missouri), FALS Chairperson, remarked that a similar item was bought before the Committee in 2007. FALS did not have enough time in their work session to work on this item. There are several stakeholders and states that are having issues with the terminology and would like it removed from the agenda. Mr. Hayes remarked that they supported this item because contamination is an issue with cars that do not have filtering systems. The Committee reviewed comments from the Regional Associations however; FALS did not have sufficient time review and consider recommendation to the Committee. The Committee would like for FALS to continue to work on this item and is proposing this as an Informational item.

NCWM 2013 Annual Meeting: Mr. Hayes, FALS Chair requested that the Committee allow them to continue to work on a recommendation for this item. There was opposition on moving this item forward. In less than two years since this proposal came forward, there has been no data developed. The Committee reviewed the Regional Association reports, open hearing comments, and letters received and changed the status of this item to Developing.

NCWM 2014 Interim Meeting: Mr. Hayes who submitted the proposal offered modified language and supporting data to support the flow rate on 10-micron diesel filters. There was considerable discussion in regards to the fill time reduction, burdensome cost for station owners, and equipment and filter maintenance. It was noted that there is work being done within ASTM but, at this time, that information cannot be shared. The Committee reviewed the Item under Consideration within NCWM Interim Publication 15 (2014). The Committee moved forward the modified language provided by Mr. Hayes for consideration as a Voting item.

NCWM 2014 Annual Meeting: The Committee reviewed several letters and additional data submitted by the Petroleum Marketers Association of American (PMAA). The FALS recommended this item move forward for a Vote. During the Open Hearings, there were mixed concerns in regard to this this item. Numerous concerns were expressed concerning the data from PMAA. Several comments were heard that ASTM should be allowed to develop a standard.

Regional Association Comments:
CWMA's L&R Committee heard no opposing comments and believes the proposal protects consumer vehicles and alerts retailers of potential product quality problems. Comments from previous meetings included a remark from an official indicating a smaller porosity filter may be acceptable, but for now this is a reasonable start. General Motors (GM) supported this item for passenger vehicles, as these vehicles now have 4-micron filters. Several industry representatives did not support this item during a past meeting because they believe this is a dispenser protection issue rather than a consumer protection issue. A state regulator remarked that it is a fuel quality issue, which impacts consumers' vehicles and fuel systems. Officials clarified that the proposal should only apply to passenger type vehicles, and it would specifically exempt high-flow rate meters such as truck stop meters. CWMA supported the following proposal and recommended it as a Voting item.

4.3. Dispenser Filters.

4.3.1. Engine Fuel Dispensers.

(a) All gasoline, gasoline-alcohol blends, gasoline-ether blends, E85 fuel ethanol and M85 methanol dispensers shall have a 10 micron or smaller nominal pore-sized filter.

(b) All biodiesel, biodiesel blends, diesel, and kerosene dispensers shall have a ~~**30**~~ **10** micron or smaller nominal pore-sized filter **except for dispensers with flow rates greater than 15 gallons per minute which shall have a 30 micron or smaller nominal pore size filter.**

CWMA 2014 Annual Meeting: A regulator commented this item has been vetted through the regions several times. There is additional data on the NCWM website that was shared with FALS. It was stressed that this item is for retail motor fuel dispensers for passenger vehicles not high-flow meters. The regulator also mentioned the work done by his staff during cold weather to test whether or not flow rates through 10-micron filters were more diminished than fuel flowing through 30-micron filters during sub-zero weather. The regulator stated FALS supports this item. A second regulator commented that he was seeking clarification on whether determination of the flow rate would be made with a marked flow rate or flow rate at the dispenser. Other regulators stated the intent was to have 10 micron

filters on passenger vehicle dispensers and light trucks only. This proposal best accomplishes that end. An industry representative asked about the cost between the 10-micron filters and 30-micron filters. A regulator responded costs were the same. The CWMA L&R Committee believes the item has been fully developed and is ready for Voting.

WWMA heard from one regulatory official recommending Withdrawal of the item because it is unnecessary. There is concern with the potential negative impact on the speed of fuel delivery. The submitting regulatory official supports the item with the language for Section 4.3.1.(b) as presented above in the CWMA Interim Report. WWMA recommends this item as a Voting item.

NEWMA reported in 2011 that questions were raised as to whether or not "measurement" of filter content was within the ability of weights and measures officials. It was noted that better filters may enhance fuel quality. The Committee believes the proposal has potential given input from industry and stakeholders. NEWMA forwarded the item to NCWM recommending it as a Developing item.

NEWMA 2012 Interim Meeting: The Committee reviewed the CWMA report. NEWMA recommended it to be an Informational item and requested it be reviewed by FALS.

NEWMA 2013 Interim and Annual Meetings: At both meetings, it was recommended that that the item be Withdrawn. Attendees commented that this item is not a weights and measures issue, but a manufacturer's issue.

NEWMA 2014 Annual Meeting: The Committee recommended this item be forwarded as a Voting item.

Attendees commented that this item is not a weights and measures issue, but rather a manufacturer's issue. At the 2014 NEWMA Annual Meeting, they recommend this be a Voting item.

SWMA reported in 2011 that an industry representative stated that standard retailer dispensers use a 10-micron filter, and high capacity dispensers use 30-micron filters (i.e., diesel dispensed at truck stops). The company's engineers have determined that reducing a 30-micron filter to a 10-micron filter will drastically reduce flow rate to trucks. Another industry representative agreed and re-iterated that truck stops would see a tremendous reduction in flow. The Committee believed this proposal was not practical and would have a negative impact and undue burden on the trucking industry. SWMA did not forward the item to NCWM.

SWMA 2012 Annual Meeting: An industry representative commented that the current technology to put a 10-micron filter on diesel at a truck stop will prohibit fuel from being dispensed in a timely manner and, therefore, opposes this. The Committee recommends the use of 10-micron filters be limited to passenger vehicle meters and specifically exempt high-flow rate meters. SWMA recommended the item be a Voting item but with the changes as described by the Committee.

SWMA 2013 Annual Meeting: The SWMA supported moving this item forward as a Voting item on the NCWM agenda modifying the requirements to read; 10 micron filters on devices delivering 15 gpm or less and 30-micron filters for greater than 15 gpm.

Additional letters, presentations, and data may have been part of the Committee's consideration. To review the supporting documentation, please refer to the *Report of the 98th National Conference on Weights and Measures* (SP 1171, 2013).

237-9 V Section 1. Definitions, Section 2. Standard Fuel Specifications, and Section 3. Classification and Method of Sale of Petroleum Items

(This item was Adopted.)

Source:
Fuels and Lubricants Subcommittee Task Group (2012)

Purpose:
Update regulations related to flex fuels.

Item Under Consideration:
Amend the Uniform Engine Fuels and Automotive Lubricants Regulation as follows:

Section 1. Definitions

1.13. Denatured Fuel Ethanol. – ~~**"Ethanol" as defined in Section 1.20. Ethanol.**~~ **An ethanol blend component for use in gasoline-ethanol blends and ethanol flex fuel. The ethanol is rendered unfit for beverage use by the addition of denaturants under formulas approved by the Alcohol and Tobacco Tax and Trade Bureau (TTB), www.ttb.gov. ASTM D4806, "Standard Specification for Denatured Fuel Ethanol for Blending with Gasolines for Use as Automotive Spark-Ignition Engine Fuel" describes the acceptable denaturants for denatured fuel ethanol to be blended into spark ignition engine fuels.**

(Amended 2014)

1.21. ~~E85 Fuel~~ Ethanol Flex Fuel. – ~~**A blend**~~ **Blends** of ethanol and hydrocarbons **restricted for use as fuel in ground vehicles equipped with flexible-fuel spark-ignition engines.** ~~**of which the ethanol portion is (nominally 75 to 85 volume percent denatured fuel ethanol).**~~

(Amended 2014)

1.20. Ethanol. – Also known as ~~**"Denatured Fuel Ethanol," means nominally anhydrous ethyl alcohol meeting ASTM D4806 standards. It is intended to be blended with gasoline for use as a fuel in a spark-ignition internal combustion engine. The denatured fuel ethanol is first made unfit for drinking by the addition of the Alcohol and Tobacco Tax and Trade Bureau (TTB), www.ttb.gov, approved substances before blending with gasoline.**~~ **"ethyl alcohol." Ethanol is provided in gasoline-ethanol blends by blending denatured fuel ethanol. See Section 1.13. Denatured Fuel Ethanol.**

(Amended 20XX)

1.53. Wholesale Purchaser Consumer. – Any person who is an ultimate ~~**gasoline**~~ consumer of **gasoline,** fuel methanol, **ethanol flex fuel,** ~~**fuel ethanol,**~~ diesel fuel, biodiesel, **biodiesel blends,** fuel oil, kerosene, aviation turbine fuels, natural gas, compressed natural gas, or liquefied petroleum gas and who purchases or obtains the product from a supplier and receives delivery of that product into a storage tank.

(Added 1998) (Amended 1999 **and 2014**)

Section 2. Standard Fuel Specifications

2.7. Denatured Fuel Ethanol. – Intended for blending with gasoline shall meet the latest version of ASTM D4806, "Standard Specification for Denatured Fuel Ethanol for Blending with Gasolines for Use as Automotive Spark-Ignition Engine Fuel."

2.10. ~~E85 Fuel~~ Ethanol Flex Fuel. – ~~**shall meet the latest version of the following ASTM D5798, "Standard Specification for Ethanol Fuel Blends for Flexible Fuel Fuel Ethanol (Ed75 Ed85) for Automotive Spark Ignition Engines."**~~ **Ethanol flex fuel is covered by one of two ASTM standards based on the ethanol concentration of the blend:**

(a) Ethanol flex fuel containing 51 to 83 volume percent ethanol shall meet the latest version of ASTM D5798, "Standard Specification for Ethanol Fuel Blends for Flexible Fuel Automotive Spark-Ignition Engines"; and

(b) Ethanol flex fuel containing 16 to 50 volume percent ethanol shall be blended, stored and conveyed for consumption in accordance with the latest version of ASTM D7794, "Standard Practice for Blending Mid-Level Ethanol Fuel Blends for Flexible Fuel Vehicles with Automotive Spark-Ignition Engines."

(Added 1997) **(Amended 2014)**

Section 3. Classification and Method of Sale of Petroleum Products

3.8. ~~E85 Fuel~~ Ethanol Flex Fuel.

3.8.1. How to Identify ~~E85 Fuel~~ Ethanol Flex Fuel. ~~Fuel~~ Ethanol flex fuel shall be identified as **Ethanol Flex Fuel or EXX Flex Fuel ~~E85~~.**

3.8.2. Labeling Requirements.

(a) **Ethanol flex fuel with an ethanol concentration no less than 51 and no greater than 83 volume percent shall be labeled "Ethanol Flex Fuel, minimum 51 % ethanol.". ~~Fuel ethanol shall be labeled with its automotive fuel rating in accordance with 16 CFR Part 306.~~**

(b) Ethanol flex fuel with an ethanol concentration less than or equal to 50 volume percent shall be labeled "EXX Flex Fuel, minimum YY % ethanol", where the XX is the ethanol concentration in volume percent and YY is XX minus 5. The actual ethanol concentration of the blend shall be XX volume percent plus or minus 5 volume percent.

(c)~~(b)~~ A label shall be posted which states "For Use in Flexible Fuel Vehicles (FFV) Only." This information shall be clearly and conspicuously posed on the upper 50 % of the dispenser front panel in a type at least 12.7 mm (½ in) in height, 1.5 mm ($^{1}/_{16}$ in) stroke (width of type). A label shall be posted which states, **~~"Consult Vehicle Manufacturer Fuel Recommendations,"~~ "CHECK OWNER'S MANUAL**,", and shall not be less than 6 mm (¼ in) in height by 0.8 mm ($^{1}/_{32}$ in) stroke; block style letters and the color shall be in definite contrast to the background color to which it is applied.

(Amended 2007, 2008**, and 2014)**

Section 4. Retail Storage Tanks and Dispenser Filters

4.1. Water in Gasoline-Alcohol Blends, Biodiesel Blends, ~~E85 Fuel~~ Ethanol Flex Fuel, Aviation Gasoline, and Aviation Turbine Fuel. – No water phase greater than 6 mm (¼ in) as determined by an appropriate detection paste or other acceptable means, is allowed to accumulate in any tank utilized in the storage of gasoline-alcohol blend, biodiesel, biodiesel blends, **~~E85 Fuel~~ ethanol flex fuel blends**, aviation gasoline, and aviation turbine fuel.

(Amended 2014)

4.2. Water in Gasoline, Diesel, Gasoline-Ether, and Other Fuels. – Water shall not exceed 25 mm (1 in) in depth when measured with water indicating paste or other acceptable means in any tank utilized in the storage of diesel, gasoline, gasoline-ether blends, and kerosene sold at retail except as required in Section 4.1. Water in Gasoline-Alcohol Blends, Aviation Blends, Biodiesel Blends, **~~E85 Fuel~~ Ethanol Flex Fuel,** Aviation Gasoline, and Aviation Turbine Fuel.

(Amended 2008, **~~and~~ 2012, and 2014**)

4.3. Dispenser Filters.

4.3.1. Engine Fuel Dispensers.

(a) All gasoline, gasoline-alcohol blends, gasoline-ether blends, ~~**E85 fuel**~~ **ethanol flex fuel** and M85 methanol dispensers shall have a 10 micron or smaller nominal pore-sized filter.

(b) All biodiesel, biodiesel blends, diesel, and kerosene dispensers shall have a 30 micron or smaller nominal pore-sized filter.

(Added 2008) **(Amended 2014)**

Background/Discussion:
The current wording in NIST Handbook 130 related to fuels restricted to use in flex fuel vehicles should be reviewed. Input gathered from the regional meetings and other stakeholders will be utilized by FALS to develop recommended modifications to NIST Handbook 130.

NCWM 2012 Interim Meeting: The Committee received an update from Mr. Corr, (Chair of the Task Group [TG] under the FALS), will lead an effort to get regional input on a transition and implementation date. The 2012 L&R Committee designated this item as an Informational item.

NCWM 2012 Annual Meeting: Mr. Corr, Chair of the TG under the FALS, reported on behalf of FALS TG that approximately 18 areas of NIST Handbook 130 have been identified where modifications may be needed. A stakeholder voiced full support of the TG efforts. Mr. Corr's group will report again at the 2013 NCWM Interim Meeting.

NCWM 2013 Interim Meeting: Mr. Corr provided an update of the language changes recommended for addressing the full range of fuels restricted to flex fuel vehicles in NIST Handbook 130. He remarked that no feedback has been provided to him from stakeholders and states concerning the language changes. Mr. Corr also stated FALS has also not reviewed and discussed the proposed changes. The Committee recommended this as an Informational item so interested parties can provide comments.

NCWM 2013 Annual Meeting: Mr. Corr provided initial language changes for the Uniform Regulation for the Method of Sale, Section 2.30. ~~**E85 Fuel**~~ Ethanol Flex Fuel Blends, and this language was placed under the Method of Sale of Commodities section and appears as Item 232-6.

NCWM 2014 Interim Meeting: Mr. Corr submitted modified language that aligns also with Item 232-6 within the report. The Committee recommends this as a Voting item.

NCWM 2014 Annual Meeting: The Committee heard from Mr. Matthew Curran, FALS Chair, who is in contact with the Federal Trade Commission (FTC) in regards to the FTC proposed ruling on this issue. Currently FTC is awaiting the outcome of the 2014 NCWM Annual Meeting results before proceeding (refer to Appendix C) with their proposal. The Committee agreed to modify the language in its Interim Report to that shown in this Final Report in the Item Under Consideration.

Regional Association Comments:
CWMA reported FALS recommended the alternate proposal below be a Voting item. The Committee agreed. During past regional meetings, Mr. Corr gave a presentation on "Flex Fuel Task Force Update." This presentation noted that ASTM D7794-12 and D5798-11 cover the standard for a full range of ethanol concentrations. Several commented that the 51 % to 83 % range is too broad. A regulatory official was concerned with blends at the pumps they can choose a blend and percentage. A stakeholder remarked that consumers are concerned with price and miles per gallon (MPG) and may not have enough knowledge in regards to blends. Another stakeholder remarked that ASTM 5798 is at the terminal and the Conference needs to address this issue.

Section 1. Definitions

1.13. Denatured Fuel Ethanol. – ~~**"Ethanol" as defined in Section 1.20. Ethanol.**~~ **An ethanol blend component for use in gasoline-ethanol blends and Ethanol Flex Fuel blends. The ethanol is rendered unfit for beverage use by the addition of denaturants under formulas approved by the Alcohol and Tobacco Tax and Trade Bureau (TTB), www.ttb.gov. ASTM D4806, "Standard Specification for Denatured Fuel Ethanol for blending with Gasolines for Use as Automotive Spark-Ignition Engine Fuel" ~~which~~ describes the acceptable denaturants for denatured fuel ethanol to be blended into spark-ignition engine fuels.**

1.17. Ethanol Flex Fuel Blends ~~E85 Fuel Ethanol.~~ – **~~A blend~~ Blends** of ethanol and hydrocarbons **restricted for use as fuel in ground vehicles equipped with flexible-fuel spark-ignition engines. ~~of which the ethanol portion is (nominally 75 to 85 volume percent denatured fuel ethanol)~~**.

1.20. Ethanol. – Also known as **"ethyl alcohol". Ethanol is provided in gasoline-ethanol blends and Ethanol Flex Fuel blends by blending denatured fuel ethanol. See "Denatured Fuel Ethanol" in Section 1.13. ~~"Denatured Fuel Ethanol," means nominally anhydrous ethyl alcohol meeting ASTM D4806 standards. It is intended to be blended with gasoline for use as a fuel in a spark-ignition internal combustion engine. The denatured fuel ethanol is first made unfit for drinking by the addition of the Alcohol and Tobacco Tax and Trade Bureau (TTB), www.ttb.gov, approved substances before blending with gasoline.~~**

1.53. Wholesale Purchaser Consumer. – Any person who is an ultimate ~~**gasoline**~~ consumer of gasoline, fuel methanol, **Ethanol Flex Fuel blends, ~~fuel ethanol~~**, diesel fuel, biodiesel, **biodiesel blends,** fuel oil, kerosene, aviation turbine fuels, natural gas, compressed natural gas, or liquefied petroleum gas and who purchases or obtains the product from a supplier and receives delivery of that product into a storage tank.

Section 2. Standard Fuel Specifications

2.7. Denatured Fuel Ethanol. – Intended for blending with gasoline shall meet the most recent version of ASTM D4806, "Standard Specification for Denatured Fuel Ethanol for Blending with Gasolines for Use as Automotive Spark-Ignition Engine Fuel."

2.10. Ethanol Flex Fuel ~~E85 Fuel Ethanol. – Shall meet the most recent version of the following ASTM D5798, "Standard Specification for Fuel Ethanol (Ed75-Ed85) for Automotive Spark-Ignition Engines."~~ Ethanol Flex Fuel blends are ~~is~~ covered by one of two ASTM standards based on the ethanol concentration of the blend:

(a) Ethanol Flex Fuel blends containing 51 to 83 volume percent ethanol shall meet the latest version of ASTM D5798, "Standard Specification for Ethanol Fuel Blends for Flexible-Fuel Automotive Spark-Ignition Engines"; and

(b) Ethanol Flex Fuel Blends containing 16 to 50 volume percent ethanol shall be blended, stored and conveyed for consumption in accordance with the latest version of ASTM D7794, "Standard Practice for Blending Mid-Level Ethanol Fuel Blends for Flexible-Fuel Vehicles with Automotive Spark-Ignition Engines."

Section 3. Classification and Method of Sale of Petroleum Products

3.8. Ethanol Flex Fuel Blends ~~E85 Fuel Ethanol.~~

3.8.1. How to Identify Ethanol Flex Fuel Blends ~~E85 Fuel Ethanol.~~ – **Ethanol Flex Fuel blends ~~Fuel ethanol~~** shall be identified as **Ethanol Flex Fuel or EXX Flex Fuel ~~E85~~**.

3.8.2. Labeling Requirements.

(a) Ethanol Flex Fuel blends with an ethanol concentration no less than 51 and no greater than 83 volume percent shall be labeled "Ethanol Flex Fuel, minimum 51 % ethanol". ~~**Fuel ethanol shall be labeled with its automotive fuel rating in accordance with 16 CFR Part 306.**~~

(b) Ethanol Flex Fuel blends with an ethanol concentration less than or equal to 50 volume percent shall be labeled "EXX Flex Fuel, minimum YY % ethanol", where the XX is the target ethanol concentration in volume percent and YY is XX minus 5. The actual ethanol concentration of the blend shall be XX volume percent plus or minus 5 volume percent.

(c)~~**(b)**~~ A label shall be posted which states "For Use in Flexible Fuel Vehicles (FFV) Only." This information shall be clearly and conspicuously posed on the upper 50 % of the dispenser front panel in a type at least 12.7 mm (½ in) in height, 1.5 mm ($^{1}/_{16}$ in) stroke (width of type). A label shall be posted which states, **"CHECK OWNER'S MANUAL",** ~~**"Consult Vehicle Manufacturer Fuel Recommendations,"**~~ **and shall not be less than 6 mm (¼ in) in height by 0.8 mm ($^{1}/_{32}$ in) stroke; block style letters** and the color shall be in definite contrast to the background color to which it is applied.

(Amended 2007**,** ~~**and**~~ 2008**, and 20XX**)

Section 4. Retail Storage Tanks and Dispenser Filters

4.1. Water in Gasoline-Alcohol Blends, Biodiesel Blends, Ethanol Flex Fuel Blends ~~**E85 Fuel Ethanol,**~~ **Aviation Gasoline, and Aviation Turbine Fuel.** – No water phase greater than 6 mm (¼ in) as determined by an appropriate detection paste or other acceptable means, is allowed to accumulate in any tank utilized in the storage of gasoline-alcohol blend, biodiesel, biodiesel blends, **Ethanol Flex Fuel blends** ~~**E85 fuel ethanol**~~, aviation gasoline, and aviation turbine fuel.

4.2. Water in Gasoline, Diesel, Gasoline-Ether, and Other Fuels. – Water shall not exceed 25 mm (1 in) in depth when measured with water indicating paste or other acceptable means in any tank utilized in the storage of diesel, gasoline, gasoline-ether blends, and kerosene sold at retail except as required in Section 4.1.Water in Gasoline-Alcohol Blends, Aviation Blends, Biodiesel Blends, **Ethanol Flex Fuel Blends** ~~**E85 Fuel Ethanol**~~, Aviation Gasoline, and Aviation Turbine Fuel.

4.3. Dispenser Filters.

4.3.1. Engine Fuel Dispensers.

(a) All gasoline, gasoline-alcohol blends, gasoline-ether blends, **Ethanol Flex Fuel blends** ~~**E85 fuel ethanol**~~, and M85 methanol dispensers shall have a 10 micron or smaller nominal pore-sized filter.

(b) All biodiesel, biodiesel blends, diesel, and kerosene dispensers shall have a 30 micron or smaller nominal pore-sized filter.

CWMA 2014 Annual Meeting: An industry representative encouraged support of this item; FALS also recommends its adoption. A regulator summarized a recent Notice of Proposed Rule from the FTC. He indicated the proposal falls short in a number of areas: 1) for E15, the only requirement would be an EPA label – the FTC proposal does not require an octane rating; 2) ethanol blends above 15 % to 83 % will be posted in units of 10 percent increments; and 3) the term "E85" can no longer be used. A second industry representative commented that the FTC proposal is a regression and creates problems; he urged support for this item. FALS is considering submitting comments to FTC regarding the proposed rule. The CWMA L&R Committee agrees with the comments from regulators and industry, believes the item has been fully developed, and is ready for Voting.

WWMA heard from industry representative stating that FALS recommends the item be moved to Voting Status with the same changes identified in the above CWMA comments. WWMA recommended that this item as modified be a Voting item.

NEWMA recommended in 2012 that the item remain as an Informational item. During its 2013 Annual Meeting, NEWMA supported the ongoing work being done by the Task Group and recommended it as an Informational item. At the 2013 NEWMA Interim Meeting, an industry representative stated that FALS recommends the item be moved to Voting status with the same changes as shown above in the CWMA comments. At the 2014 NEWMA Annual Meeting, the Committee recommended this be a Voting item to make it consistent with the ASTM on volatility and flex fuel language.

SWMA heard a presentation in 2011 from Mr. Corr. He identified several areas where stakeholder input is needed to propose updates to NIST Handbook 130 and to reflect new language in ASTM D5798. No comments were made during the hearing. FALS is expected to have a recommendation for the 2012 NCWM Interim Meeting. SWMA forwarded the item to NCWM, recommending it as a Developing item.

SWMA 2012 Annual Meeting: Mr. Corr commented as Chair of the FALS TG that the group is working on language to reflect the new ASTM D7794 and modified D5798 standards for fuels restricted to flex fuel vehicles. It should be available for review at the NCWM Interim Meeting. Mr. Russ Lewis (Marathon Petroleum) gave a presentation in support of the proposal, taking into account the recently modified ASTM D5798 "Specifications for Ethanol Fuel Blends for Flexible Fuel Automotive Spark Ignition Engines." Mr. Lewis provided proposed language to the TG for consideration. SWMA recommended that this be an Informational item.

SWMA 2013 Annual Meeting: The region supported moving forward the modified language as it appears in their 2013 final report as a Voting item to NCWM.

Additional letters, presentations, and data may have been part of the Committee's consideration. To review the supporting documentation, please refer to the *Report of the 98 National Conference on Weights and Measures* (SP 1171, 2013).

237-10 V Section 3.XX. Diesel Exhaust Fluid (DEF).

(This item was Adopted.)

Source:
American Petroleum Institute (2014)
(Note: In the 2014 NCWM Publication 15, this was Item 232-8)

Purpose:
To include Diesel Exhaust Fluid (DEF) in NIST Handbook 130, including defining DEF and outlining marking requirements to provide information to consumers of DEF.

Item under Consideration:
Amend NIST Handbook 130, Uniform Engine Fuels and Automotive Lubricants Regulation as follows:

Section 1. Definitions

1.14. Diesel Exhaust Fluid. – A preparation of aqueous urea [(NH2)2CO], containing 32.5% by mass of technically-pure urea in high-purity water with quality characteristics defined by the latest version of ISO 22241, "Diesel engines - NOx reduction agent AUS 32."

(Added 2014)

Section 2. Standard Fuel Specifications

2.18. Diesel Exhaust Fluid (DEF). – Shall meet the latest version of ISO 22241, "Diesel engines – NOx reduction agent AUS 32."

(Added 2014)

Section 3. Classification and Method of Sale of Petroleum Products

3.16. Diesel Exhaust Fluid (DEF).

3.16.1. Labeling of Diesel Exhaust Fluid. – Diesel Exhaust Fluid shall be labeled.

3.16.1.1. Retail Dispenser Labeling. – A label shall be clearly and conspicuously placed on the front panel of the Diesel Exhaust Fluid dispenser stating "for operation of selective catalytic reduction (SCR) converters in motor vehicles with diesel engines."

3.16.1.2. Documentation for Retailers of Bulk Product. – A DEF supplier shall provide, at the time of delivery of the bulk shipment of DEF, identification of the fluid's origin including the name of the fluid manufacturer, the brand name, trade name, or trademark, and a statement identifying the fluid as DEF conforming to specifications given in the latest version of ISO 22241, "Diesel engines – NOx reduction agent AUS 32.". This information shall be provided by the supplier on an invoice, bill of lading, shipping paper, or other document.

3.16.1.3. Labeling of Packaged Product. – Any diesel exhaust fluid retail package shall bear a label that includes the name of the fluid manufacturer, the brand name, trade name, or trademark, a statement identifying the fluid as DEF conforming to specifications given in the latest version of ISO 22241, "Diesel engines – NOx reduction agent AUS 32." and the statement, "It is recommended to store DEF between – 5 °C to 30 °C (23 °F to 86 °F)."

3.16.1.4. Documentation for Bulk Deliveries. – A carrier that transports or accepts for transportation any bulk shipment by tank truck, freight container, cargo tank, railcar, or any other vehicle used to transport or deliver bulk quantities of DEF shall, at the time of delivery of the DEF, provide identification of the fluid's origin including the name of the fluid manufacturer, the brand name, trade name, or trademark, and a statement identifying the fluid as DEF conforming to specifications given in the latest version of ISO 22241, "Diesel engines – NOx reduction agent AUS 32.". This information shall be provided to the recipient on an invoice, bill of lading, shipping paper, or other document.

Effective date shall be January 1, 2016

(Added 2014)

Background/Discussion: Diesel exhaust fluid (DEF) is an aqueous mixture of 32.5 % high-purity urea and 67.5 % deionized water, and is used in conjunction with Selective Catalytic Reduction (SCR) systems to remove harmful NOx emissions from diesel engines. In January 2010, the U.S. Environmental Protection Agency (EPA) enacted new emission standards requiring medium- and heavy-duty diesel vehicles to significantly reduce engine emissions, including NOx. A majority of engine manufacturers is now using SCR systems to meet the new EPA standards in their diesel applications and is specifying the use of DEF meeting the quality requirements of the most current version of ISO 22241, "Diesel engines - NOx reduction agent AUS 32- Parts 1-5."

As a result, the sale of DEF has become a fast-growth, emerging market as pre-2010 on- and off-highway equipment inventory continues to turn over. For instance, DEF may currently be purchased at fuel-island pumps at over 1000 locations nationwide, with many more locations expected in the near future. The sale of DEF can be expected to continue to grow very quickly as additional fleet turnover occurs and regulations for passenger cars, light-duty trucks, non-road vehicles, and stationary diesel engines are phased in during the coming years. Hence, it is of utmost importance that consumers of DEF are receiving the proper information about the product they purchasing as well as assurances that the product meets the ISO 22241, "Diesel engines - NOx reduction agent AUS 32" specifications.

NCWM 2014 Interim Meeting: A representative with API provided FALS with modified language. This language will address the regional concerns regarding the clarity of the language and providing for retail dispenser labeling. This modification also expanded the recommended temperature ranges and is consistent with the ISO method. FALS concurs with the changes and submitted them to the Committee as a Voting item.

NCWM 2014 Annual Meeting: The Committee heard support that a provision should be made to make this item effective January 2016. The Committee agreed to modify the language in its Interim Report to that shown in this Final Report in the Item Under Consideration.

Regional Associations Comments:
CWMA 2014: An ISO specification currently exists for this product, and quality assurance is important. At the CWMA Annual Meeting, the Committee was informed that there is also a companion Item 232-7. An industry representative supports both items. A regulator has been working through the ASTM process to develop a specification for this product, but ASTM has decided to not pursue it. Consequently, he urges support and passage of this item. After discussion among the attendees, consensus was reached that an implementation date of one year after passage would allow sufficient time for the regulated industry to comply. The Committee is also recommending a proposed effective date be placed into the item that reflects an effective date of one year after publication. CWMA L&R Committee believes that a specification for this product is important, since ASTM is not going to develop a specification, this item should move forward as a Voting item.

WWMA heard from a representative of API regarding both Items 232-6 and 232-7 simultaneously. API explained that there is currently no definition of DEF. API also stated the sale of DEF will continue to increase in the market, as it is in use on all selective catalytic reduction diesel vehicles. He stated the method to manufacture DEF may differ, but the standard remains the same for all DEF products and purity is important. The FALS Chairman stated that ASTM does not have a specification, so the ISO specification is appropriate and would like to make this a Voting item. An industry representative from Gilbarco spoke to the uncertainty whether current receipt technology has the capability to print all required information. An industry representative expressed concern regarding temperatures requirements because of storage locations outside the specified range. The Committee supports this item and would like clarification regarding whether current receipt dispenser technology can accommodate proposed requirements. WWMA forwarded this item to NCWM and recommended it be an Informational item.

NEWMA heard a comment from the submitter that adding DEF to NIST Handbook 130, including defining DEF and outlining marking requirements would provide information to consumers of DEF. NEWMA forwarded it to NCWM, recommending it as a Developing item. At the 2014 NEWMA Annual Meeting, they recommended that this be a Voting item as it is fully developed.

SWMA forwarded the item to NCWM, recommending it as a Developing item to further address the concerns of quality statements on receipts and dispensers.

Additional letters, presentations, and data may have been part of the Committee's consideration. To review the supporting documentation, please refer to the *Report of the 98th National Conference on Weights and Measures* (SP 1171, 2013).

237-11 V Section 2.12. Motor Oil

(This item was Adopted.)

Source:
Fuels and Lubricants Subcommittee and API (2014)
(Note: This item did not appear in the 2014 NCWM Publication. This was submitted as an editorial change through FALS.)

Purpose:
Editorial change under Section 2.12.(a) Motor Oil that allows for the language insertion to include Automobile Manufacturers' Association (ACEA) "European Oil Sequences."

Item Under Consideration:

2.12. <u>Engine (</u>Motor<u>)</u> Oil. – Shall not be sold or distributed for use unless the product conforms to the following specifications:

(a) performance claims listed on the label shall be evaluated against the latest version of SAE J183, "Engine Oil Performance and Engine Service Classification," ~~**(Other than "Energy Conserving," API 1509 "Engine Oil Licensing and Certifications System,"**~~ **API 1509 "Engine Oil Licensing and Certification System", European Automobile Manufacturers' Association (ACEA) "European Oil Sequences"** or other ~~**industry**~~ standards as applicable;

~~(b)~~ the product shall meet its labeled viscosity grade specification as specified in the latest version of SAE J300, "Engine Oil Viscosity Classification~~**.; and**~~

~~**(c) any engine oil that is represented as "energy conserving" shall meet the requirements established by the latest version of SAE J1423, "Classification of Energy Conserving Engine Oil for Passenger Cars, Vans, Sport Utility Vehicles, and Light-Duty Trucks.**~~

(Added 2004) **(Amended 2014)**

Background/Discussion:
Mr. Kevin Ferrick (API) provided editorial changes through the FALS that provided clarity and aligns with similar items in the handbook. The FALS agreed to send this to the Committee recommending it as a Voting item.

2014 NCWM Interim Meeting: The Committee was informed by FALS that an editorial change to Section 2.12. Motor Oil was needed to add the European Automobile Association "European Oil Sequences" to align with proposed language in Item 232-4 and 237-6. The Committee concurs with this change.

2014 NCWM Annual Meeting: There was an editorial change to remove the word "industry" from Section 2.2.(a). The Committee agreed to modify the language in its Interim Report to that shown in this Final Report in the Item Under Consideration.

2014 NEWMA Annual Meeting: It was recommended that the language as it currently appears in the agenda be a Voting item.

Regional Associations Comments:
2014 CWMA Annual Meeting: An industry representative indicated support for this item with the following change (2.12. Motor Oil, Section (a) add words "vehicle or engine manufacturer"). The CWMA L&R Committee feels this item has been fully developed and is ready for Voting as amended.

(a) performance claims listed on the label shall be evaluated against the latest version of SAE J183, "Engine Oil Performance and Engine Service Classification," ~~**(Other than "Energy Conserving," API 1509 "Engine Oil Licensing and Certifications System,"**~~ **API 1509 "Engine Oil Licensing and Certification System", European Automobile Manufacturers' Association (ACEA) "European Oil Sequences"** or other industry**, vehicle or engine manufacturer** standards as applicable; the product shall meet its labeled viscosity grade specification as specified in the latest version of SAE J300, "Engine Oil Viscosity Classification."

The CWMA L&R Committee agrees with the amended language, believes this item has been fully developed and is ready for Voting as amended.

Additional letters, presentations, and data may have been part of the Committee's consideration. To review the supporting documentation, please refer to the *Report of the 98th National Conference on Weights and Measures* (SP 1171, 2013).

260 NIST HANDBOOK 133

260-1 W Section 3.10. Animal Bedding

(This item was Withdrawn.)

Source:
Central Weights and Measures Association (2012)

Purpose:
This proposal is to clarify appropriate test procedures for animal bedding.

Item Under Consideration:
Amend NIST Handbook 133, Test Procedures – For Packages Labeled by Volume as follows:

3.10. Mulch, ~~and~~ Soils, and Animal Bedding Labeled by Volume.

Mulch is defined as "any product or material except peat or peat moss that is advertised, offered for sale, or sold for primary use as a horticultural, above-ground dressing, for decoration, moisture control, weed control, erosion control, temperature control, or other similar purposes."

Soil is defined as "any product or material, except peat or peat moss that is advertised or offered for sale, or sold for primary use as a horticultural growing media, soil amendment, and/or soil replacement."

Animal bedding is defined as "any product or material, except for baled straw or peat moss, that is advertised, offered for sale, or sold for primary use as a medium for animals to bed, nest or eliminate waste, such as compressed wood pulp or cellulose fibers (confetti, granules, or pellets), softwood shavings, shredded paper, compressed coconut fiber, ground corn cob, pelleted paper or wheat straw, cotton fibers, and bamboo products or any other material." ~~Animal bedding as "animal bedding of all kinds, except for baled straw"~~

3.10.1. Test Equipment.

- A test measure appropriate for the package size that meets the specifications for test measures in Table 3-4. "Specifications for Test Measures for Mulch, ~~and~~ Soils and **Animal Bedding**"
- Drop cloth/polyethylene sheeting for catching overflow of material
- Level (at least 15 cm [6 in] in length)

Table 3-4.
Specifications for Test Measures for Mulch, ~~and~~ Soils, and Animal Bedding

Nominal Capacity of Test Measure[4]	Actual Volume of the Measure[4]	Interior Wall Dimensions[1]			Marked Intervals on Interior Wall[3]	Volume Equivalent of Marked Intervals
		Length	Width	Height[2]		
30.2 L (1.07 cu ft) for testing packages that contain less than 28.3 L (1 cu ft or 25.7 dry qt)	31.9 L (1.13 cu ft)	213.4 mm (8.4 in)	203.2 mm (8 in)	736.6 mm (29 in)	12.7 mm (½ in)	550.6 mL (33.6 in^3)
28.3 L (1 cu ft)	28.3 L (1 cu ft)	304.8 mm (12 in)	304.8 mm (12 in)	304.8 mm (12 in)		1179.8 mL (72 in^3)
56.6 L (2 cu ft)	63.7 L (2.25 cu ft)	304.8 mm (12 in)	304.8 mm (12 in)	685.8 mm (27 in)		
		406.4 mm (16 in)	228.6 mm (9 in)	685.8 mm (27 in)		
84.9 L (3 cu ft)	92 L (3.25 cu ft)	304.8 mm (12 in)	304.8 mm (12 in)	990.6 mm (39 in)		
		406.4 mm (16 in)	228.6 mm (9 in)	990.6 mm (39 in)		

Measures are typically constructed of 1.27 cm ($^1/_2$ in) marine plywood. A transparent sidewall is useful for determining the level of fill, but must be reinforced if it is not thick enough to resist distortion. If the measure has a clear front, place the level gage at the back (inside) of the measure so that the markings are read over the top of the mulch.

Notes

[1] Other interior dimensions are acceptable if the test measure approximates the configuration of the package under test and does not exceed a base configuration of the package cross-section.

[2]The height of the test measure may be reduced, but this will limit the volume of the package that can be tested.

[3]When lines are marked in boxes, they should extend to all four sides of the measure if possible to improve readability. It is recommended that a line indicating the MAV level also be marked to reduce the possibility of reading errors when the level of the mulch is at or near the MAV.

[4]The Nominal Capacity is given to identify the size of packages that can be tested in a single measurement using the dry measure with the listed dimensions. It is based on the most common package sizes of mulch in the marketplace. If the measures are built to the dimensions shown above the actual volume will be larger than the nominal volume so that plus errors (overfill) can be measured accurately.

(Amended 2010 **and 20XX**)

3.10.2. Test Procedure.

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

2. Open each package in turn. Empty the contents of the package into a test measure and level the contents by hand. Do not rock, shake, drop, rotate, or tamp the test measure. Read the horizontal marks to determine package net volume.

Note: **Mulch:** Some types of mulch are susceptible to clumping and compacting. Take steps to ensure that the material is loose and free flowing when placed into the test measure. Gently roll the bag before opening to reduce the clumping and compaction of material.

Compressed state animal bedding: To measure the usable volume, first empty the contents of the package on a drop cloth. Using your hands, or a tool if necessary, loosen the material until it is free of all clumps and compaction. When the product is free flowing, place in a test measure. To determine volume of the compressed state animal bedding, follow Section 3.9.1. Compressed Volume Packages.

3. Exercise care in leveling the surface of the mulch/soil/**animal bedding** and determine the volume reading from a position that minimizes errors caused by parallax.

4. Determine package errors by subtracting the labeled volume from the package net volume in the measure. Record each package error.

$$Package\ Error = Package\ Net\ Volume - Labeled\ Volume$$

3.10.3. Evaluation of Results.

Follow the procedures in Section 2.3.7. "Evaluate for Compliance to determine lot conformance.

Note: In accordance with Appendix A, Table 2-10. Exceptions to the Maximum Allowable Variations for Textiles, Polyethylene Sheeting and Film, Mulch and Soil Labeled by Volume, Packaged Firewood, and Packages Labeled by Count with 50 Items or Fewer, and Specific Agricultural Seeds Labeled by Count, apply an MAV of 5 % of the declared quantity to mulch, ~~**and**~~ soil **and animal bedding** sold by volume. When testing mulch and soil with a net quantity in terms of volume, one package out of every 12 in the sample may exceed the 5 % MAV (e.g., one in a sample of 12 packages; two in a sample of 24 packages; four in a sample of 48 packages). However, the sample must meet the average requirement of the "Category A" Sampling Plan.

Table 2-10. Exceptions to the Maximum Allowable Variations for Textiles, Polyethylene Sheeting and Film, Mulch, ~~and~~ Soils, and Animal Bedding Labeled by Volume, Packaged Firewood, and Packages Labeled by Count with 50 Items or Fewer, and Specific Agricultural Seeds Labeled by Count.	
	Maximum Allowable Variations (MAVs)
Mulch, ~~And~~ Soil, and Animal Bedding Labeled By Volume	The MAVs are: For individual packages: 5 % of the labeled volume. For example: One package may exceed the MAV for every 12 packages in the sample (e.g., when the sample size is 12 or fewer, 1 package may exceed the MAV and when the sample size is 48 packages, 4 packages may exceed the MAV). **NOTE: For Animal Bedding there is a temporary exemption not to apply the MAV. After July 2017, there will be an MAV of 5 % of the labeled volume applied to "animal bedding."**

(Amended 2010)

Background/Discussion:
NIST Handbook 130, Uniform Regulation for the Method of Sale, Section 2.23. Animal Bedding states:

> **2.23. Animal Bedding.** – Packaged animal bedding of all kinds, except for baled straw, shall be sold by volume, that is, by the cubic meter, liter, or milliliter and by the cubic yard, cubic foot, or cubic inch. If the commodity is packaged in a compressed state, the quantity declaration shall include both the quantity in the compressed state and the usable quantity that can be recovered.
>
> **Example:**
> *250 mL expands to 500 mL (500 in^3 expands to 1000 in^3).*
>
> (Added 1990) (Amended 2012)

However, NIST Handbook 133 does not include specific procedures for testing animal bedding volume declarations, compressed state quantity declarations, or usable quantity declarations. This proposal is to clarify appropriate test procedures for animal bedding.

NCWM 2012 Interim Meeting: The Committee made minor editorial changes to align the proposal with the format and language currently in NIST Handbook 133. The submitter had the word "uncompressed" added under the note section within "Evaluation of Results." The Committee agreed and recommended to remove this word.

This proposal includes adopting both the mulch and soil test method and the evaluation of results for animal bedding. The method of evaluating results for mulch and soil testing includes an exception to the maximum allowable variation (MAV), the MAV is 5%, and one package out of a 12 item sample (two packages in 24 item sample, four packages in a 48 item sample) is allowed to exceed the MAV. However, the sample must meet the average requirement of "Category A." This MAV exception for mulch and soil was developed based on a study of mulch and soil test results. The Committee will ask industry to submit animal bedding product information and test data to determine if the MAV exception is appropriate for animal bedding.

An animal bedding industry representative was supportive of the 5 % allowance and also recommended a 12 × 12 × 12 cu ft vessel. The submitter of the proposal has been using the mulch test procedure to test animal bedding and has not had issues using the procedure under the item for consideration. The 2012 Committee designated this item as an Informational item.

NCWM 2012 Annual Meeting: The Committee requested that regulators and industry conduct animal bedding package testing, and submit their test results to Ms. Cardin at judy.cardin@wi.gov or to Mr. David Sefcik at dsefcik@nist.gov. Preliminary analysis by NIST of available test data indicates that an exception for MAV is necessary for this product, but the Committee needs additional test data to determine the appropriate amount for that exception.

NCWM 2013 Interim Meeting: Mr. David Sefcik (NIST, OWM) provided a summary of the data that was received from states and manufacturers that tested animal bedding. The findings were limited participation, and very few lots passed; therefore, NIST could not make a recommendation for a MAV. Data shows there is a bigger concern than determining correct MAV. Even with applying a 5 % MAV, almost all the lots would have failed. There were also significant variations in labeled content, variability on bedding materials, different types of packing machines and volumetric test measures. It was agreed the test procedure for mulch could be used for animal bedding. The recommendation was that the Committee should consider a temporary exemption from the MAV (three to five years). This would provide an exemption from the current MAV which is too restrictive while giving the Committee and NIST additional time for data to be collected to determine the proper MAV. NIST will work with stakeholders to develop a standardized test measure.

Mr. Jim Byers (San Diego County, California) expressed concern that animal bedding needs to be clearly defined. Mr. Byers submitted recommended language to define animal as follows:

> **"Any product or material, except for baled straw, that is advertised, offered for sale, or sold for primary use as a medium for animals to bed, nest or eliminate waste, such as compressed wood pulp or cellulose fibers (confetti, granules, or pellets), softwood shavings, shredded paper, compressed coconut fiber, ground corn cob, pelleted paper or wheat straw, cotton fibers, and bamboo products or any other material."**

Mr. Floren agrees with Mr. Byers and Mr. Sefcik on their recommendations. Mr. Rich Whiting (American Wood Fibers) spoke that they participated and their lots did not pass. American Wood Fibers would like to see a test measure and quantity control practices developed by NCWM.

The Committee agrees with the definition for animal bedding drafted by Mr. Byers with the addition of peat moss as an exemption. It was agreed to remove the MAV requirement for animal bedding and the Committee is recommending that the states test animal bedding on the "average requirement." The removal of the MAV for animal bedding would be a temporary exemption for a four year period, after which time the MAV would default to the 5 %. There was no objection from NIST on the test procedure. Information will need to be obtained from industry to determine an accurate test measure. It was also agreed to put a sunset date of July 2017 into the language. With these changes, the Committee proposes this as a Voting item.

NCWM 2013 Annual Meeting: A regulator opposed the item as written due to animal bedding is being defined within a test procedure for mulch and soil. He questions how the 5 % MAV was calculated. He also does not recommend a fix of applying a temporary MAV exemption. The Committee concurs that this item is not ready to move forward as a Voting Item and moved this item to Developing status, so the submitter can further develop. The definition needs to be reviewed to determine any exemptions that may apply for items currently sold by weight. Reconsideration should also be given to whether a three-year exemption to the MAV is appropriate. The Committee believes this item needs to be further developed and returned to the submitter.

NCWM 2014 Interim Meeting: There were no comments heard and there has been no response from the submitter to further develop. A NIST Technical Advisor responded that NIST will continue to gather data and study this issue. If NIST believes there is an issue, they will submit a new proposal. The Committee is recommending this be a Withdrawn item since no additional work by the submitter has been done.

Regional Association Comments:
CWMA commented that no additional information has been received to date. During past regional meetings, a state regulator noted there is no standard for animal bedding, and industry is using a variety of test methods, which produce varying results. Wisconsin tested and found a wide variance in net quantity accuracy and found significant shortages in several instances. Ms. Cardin encouraged other jurisdictions to test animal bedding and to share data

with NIST, OWM. Missouri did a lot of testing at one facility and found a maximum of 36 % shortage and an average of 23 % shortage. Missouri's analysis further showed that the chipper had a great impact of the "spring effect" of compression. An industry representative recommended developing a method of sale for this commodity when sold from bulk since a significant amount of horse bedding is purchased in bulk. Ms. Cardin announced she would coordinate an animal bedding package testing survey to provide data to determine the appropriate exception to MAV for animal bedding. Some states agreed to participate. During the most recent annual meeting (2013), the NIST Technical Advisor remarked that the date in the MAV table was open ended and consideration should be given to make it date specific. NIST continues to analyze test data, and states should continue to send test data to NIST. During their May 2013 Annual Meeting, the Committee recommended that a date for the temporary exemption read July 1, 2017, and recommended Voting status. At the 2013 CWMA Interim Meeting, they recommended that the item be a Developing item.

WWMA received comment from a regulatory official stating that the submitter is unlikely to continue work on this item; however, a national test procedure on animal bedding is needed. First, the definition for animal bedding needs to be reworked. The definition in Section 3.10. Mulch and Soils Labeled by Volume, needs to specifically address compressible materials only or "products subject to compression." In Section 3.10.2., Test Procedure is contradictory because the definition specifically excludes peat moss, yet the test procedure references Section 3.9.1. Compressed Volume Packages Applied to Peat Moss. Third, there is no data to justify a 5 % MAV. The Committee believed this item has merit and should be further developed. WWMA recommended that it be a Developing item.

NEWMA commented in 2012 that it would like to see results of the CWMA study before action is taken on the proposal. NEWMA recommended that the item be an Informational item. During the 2013 NEWMA Annual Meeting, the NIST Technical Advisor remarked that they continue to collect data on this subject matter. The Committee believed there is sufficient data to support this item and recommended it as a Voting item. At their 2013 Interim Meeting, reviewed the comments from the report of the WWMA and recommended that the item be a Developing item.

SWMA heard comments in 2012 from a NIST Technical Advisor that the chair of the NCWM L&R Committee is requesting states to participate in the package testing of animal bedding over the next two months in order to provide more data to help determine the appropriate MAV. SWMA recommended that the item be an Informational item unless there is strong evidence from the survey for an appropriate MAV, in which case SWMA would recommend it as a Voting item. At the 2013 SWMA Annual Meeting, they supported the item remaining as a Developing item as it needs more work.

Additional letters, presentations, and data may have been part of the Committee's consideration. To review the supporting documentation, please refer to the *Report of the 98th National Conference on Weights and Measures* (SP 1171, 2013).

260-2 V Section 3.12. Fresh Oysters Labeled by Volume

(This item was Adopted.)

Source:
NIST Office of Weights and Measures (2014)

Purpose:
To correct errors and omissions to NIST Handbook 133, Section 3.12., Fresh Oysters Labeled by volume so that it is in complete agreement with the AOAC Official Method 35.1.07 (953.11), which is utilized by the Food and Drug Administration.

Item under Consideration:
Amend NIST Handbook 133 as follows:

3.12. Fresh Oysters Labeled by Volume.

Packaged fresh oysters removed from the shell must be labeled by volume. The maximum amount of permitted free liquid is limited to 15 % by weight. Testing the quantity of contents of fresh oysters requires the inspector to determine total volume, total weight of solids and liquid, and the weight of the free liquid.

3.12.1. Test Equipment.

- A scale that meets the requirements in Section 2.2. "Measurement Standards and Test Equipment"
- Volumetric measures
- Micrometer depth gage (ends of rods fully rounded), 0 mm to 228 mm (0 in to 9 in)
- Strainer for determining the amount of drained liquid from shucked oysters. Use ~~as~~ a strainer **and** a **slightly smaller** ~~**flat**~~ bottom ~~**metal**~~ **receiving** pan or tray constructed to the following specifications:
  - Sides: 5.08 cm (2 in)
  - Area: 1935 cm^2 (300 in^2) or more for each 3.78 L (1 gal) of oysters

Note: Strainers of smaller area dimensions are permitted to facilitate testing smaller containers.

- Perforations:

  Diameter: 6.35 mm (¼ in)

  Location: 3.17 cm (1¼ in) apart in a square pattern, or perforations of equivalent area and distribution.

- Spanning bar, 2.54 cm by 2.54 cm by 30.48 cm (1 in by 1 in by 12 in)
- Rubber spatula
- Thermometer, 1 °C (2 °F) graduations and a range of – 35 °C to + 50 °C (− 30 °F) to + 120 °F) accurate to ± 1 °C (± 2 °F)
- Level, at least 15.24 cm (6 in) in length
- Stopwatch

3.12.2. Test Procedure.

Note: Test the oysters at a temperature of 7 (± 1) °C [45(± 2) °F].

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

2. Determine and record the gross weight of a sample package.

3. Set the container on a level surface and open it. Use a depth gage to determine the level of fill. Lock the depth gauge. Mark the location of the gauge on the package.

4. Weigh a dry ~~**20.32 cm or 30.48 cm (8 in or 12 in)**~~ receiving pan and record the weight. Set strainer over the receiving pan.

5. Pour the contents from the container onto the strainer without shaking it**.** ~~**Tip the strainer slightly and let it**~~ ~~**d**~~ **Drain** for two minutes. Remove strainer with oysters. It is normal for oysters to

include mucous (which is part of the product) that will not pass through the strainer, so do not force it.

6. Weigh the receiving pan and liquid and record the weight. Subtract the weight of the dry receiving pan from the weight of pan and liquid to obtain the weight of free liquid and record the value.

7. Clean, dry, and weigh the container and record the tare weight. Subtract the tare weight from the gross weight to obtain the total weight of the oysters and liquid and record this value.

8. Determine and record the percent of free liquid by weight as follows:

Note: This handbook provides a Worksheet for Determining the Free Liquid and Net Volume of Oysters in Appendix C.

Percent of free liquid by weight = [(weight of free liquid) ÷ (weight of oysters + liquid)] × 100,

or

$$(f \div c) \times 100 = \text{Percentage of Free Liquid by Weight}$$

Where:

f = Weight of Free Liquid

c = (Net Weight of Oysters + Liquid)

9. Set up the depth gauge on the dry package container as in Step 3. Pour water from the flasks and graduate as needed to re-establish the level of fill obtained in Step 3. Add the volumes delivered as the actual net volume for the container and record the value.

Note: Some containers will hold the declared volume only when filled to the brim; they may have been designed for other products, rather than for oysters. If the net volume is short measure (per Step 9), determine if the container will reach the declared volume only if filled to the brim. Under such circumstance, the package net volumes will all be short measure because the container cannot be filled to the brim with a solid and liquid mixture. A small headspace is required in order to get the lid into the container without losing any liquid.

(Amended 2014)

Background/Discussion:
In preparing a new presentation on oyster testing for the NIST Handbook 133 Basics class, to be held in North Carolina, the Office of Weights and Measures compared the test methods used by the Food and Drug Administration (FDA), which are published by AOAC International (AOAC), to the test procedure in Section 3.12., Fresh Oysters Labeled by Volume. This review revealed that the test procedure in NIST Handbook 133 did not include the AOAC requirement that the oysters be tested at a specified temperature, or the description of the receiving pan in the list of test equipment. Also, Step 4 of the test procedure was inaccurate. NIST OWM also found the HB133 requirement that the strainer be "tipped slightly" (refer to Step 5) to be ambiguous and it is not included in the AOAC procedure. NIST OWM believes these errors most likely occurred when the 4th Edition of NIST Handbook 133 was revised to replace the original sieve requirements with the AOAC equipment requirements that were in response to the requirements of the Nutrition Labeling and Education Act (NLEA). NLEA requires that state and local regulations (and test procedures) be identical to those used by FDA.

To bring NIST Handbook 133, Section 3.12., Fresh Oysters Labeled by Volume into agreement with the AOAC Official Method 35.1.07 (953.11), the following revisions are proposed:

1. Revise the description of the receiving pan in Section 3.12.1. to clarify that it is to be slightly smaller than the strainer.

2. Add a note in Section 3.12.2. Test Procedure regarding the temperature at which the oysters must be tested.

3. Delete the incorrect references to circular receiving pans (i.e., 8 in and 12 in) in Section 3.12.2. Test Procedure, Step 4.

4. Delete the instruction to "tip the strainer slightly" in Section 3.12.2. Test Procedure, Step 5 to eliminate the ambiguous guidance which conflicts with the AOAC method.

5. Add a simpler version of the formula in Section 3.12.2. Test Procedure, Step 8 which can be used in the Worksheet for Determining the Free Liquid and Net Volume of Oysters.

6. Add a Worksheet for Determining the Free Liquid and Net Volume of Oysters to NIST Handbook 133, Appendix C., Model Inspection Report Forms. This worksheet was created to aid the inspector in conducting the test and documenting the actual test values. It was adapted from the oyster worksheet adopted in 1990 and published in the 3rd Supplement to the 3rd Edition of NIST Handbook 133.

In 1997, the State of North Carolina shared its drawings of the AOAC strainer with OWM and those drawings have been reformatted and made available for free download at: www.nist.gov/pml/wmd/pubs/hb133-13.cfm.

The Federal Food Drug and Cosmetic Act requires the use of net quantity test procedures and equipment identical to those used by the Food and Drug Administration which are contained in AOAC International test methods.

This proposal corrects previous errors and omissions and eliminates a conflict with an FDA test method. NIST OWM does not believe there is any reason to object to the proposed revisions. Some jurisdiction may object to adding another worksheet to NIST Handbook 133. NIST OWM will make the form available on the Office of Weights and Measures web page. (See Appendix B).

2014 Interim Meeting: A NIST Technical Advisor remarked that this test procedure and equipment was performed at a NIST Handbook 133 training course and there were no issues or concerns. The Committee moved this forward as a Voting item. 2014 NCWM Annual Meeting: No comments heard. The NIST Technical Advisor made an editorial change, adding a note to Step 8 to reference the location of the Worksheet for Determining the Free Liquid and Net Volume of Oysters.

Regional Association Comments:
CWMA's L&R Committee agrees with NIST, clarification of language should be harmonized. CWMA forwarded the item to NCWM, recommending it as a Voting item. At the 2014 CWMA Annual Meeting no comments were received at the L&R Committee Open Hearings. The Committee believes this proposal will correct errors and omissions, so that the provision in NIST Handbook 133 is aligned with the AOAC Official Method 35.1.07 (953.11), which is utilized by the Food and Drug Administration. Consequently, the CWMA L&R Committee believes the item has been fully developed and is ready for Voting.

WWMA heard from a NIST technical advisor who stated that this item is intended to correct errors and omissions to the test procedure in NIST Handbook 133 so that it brings the item in agreement with AOAC Official Method 35.1.07 (953.11) which is utilized by FDA. The proposal also includes a worksheet developed by NIST which would appear in the NIST Handbook 133 Appendix. The Committee believes the item has merit, and it is fully developed. WWMA forwarded the item to NCWM and recommended that it be a Voting item.

NEWMA 2013 Interim Meeting: NEWMA commented that the language corrects technical errors and forward the item to NCWM recommending the item as Voting.

NEWMA 2014 Annual Conference: The Committee recommends this as a Voting item in order to be consistent with federal regulations. NEWMA commented that the language corrects technical errors and forwarded the item to NCWM.

SWMA supported the item as proposed and forwarded the item to NCWM, recommending that it be a Voting item as it aligns weights and measures and FDA inspection procedures.

Additional letters, presentations, and data may have been part of the Committee's consideration. To review the supporting documentation, please refer to the *Report of the 98th National Conference on Weights and Measures* (SP 1171, 2013).

260-3 W Section 4.3. Paper Plates and Sanitary Paper Products

(This item was Withdrawn.)

Source:
Georgia Pacific (2013)

Purpose:
Add a more accurate & reproducible test method for verifying dimensions of disposable plates, bowls, and platters.

Item Under Consideration:
Amend NIST Handbook 133 as follows:

4.3. Paper Plates and Sanitary Paper Products

The following procedure is used to verify the size of paper plates and other sanitary paper products. It may also be used to verify the size declarations of other disposable dinnerware.

Note: Do not distort the item's shape during measurement.

The count of sanitary paper products cannot be adequately determined by weighing. Variability in sheet weight and core weight requires that official tests be conducted by actual count. However, weighing can be a useful audit method. These products often declare total area as well as unit count and sheet size. If the actual sheet size measurements and the actual count comply with the average requirements, the total area declaration is assumed correct.

4.3.1. Test Equipment.

- Steel tapes and rules. Determine measurements of length to the nearest division of the appropriate tape or rule.
  - Metric Units:

    For labeled dimensions 40 cm or less, linear measure: 30 cm in length, 1 mm divisions; or a 1 m rule with 0.1 mm divisions, overall length tolerance of 0.4 mm.

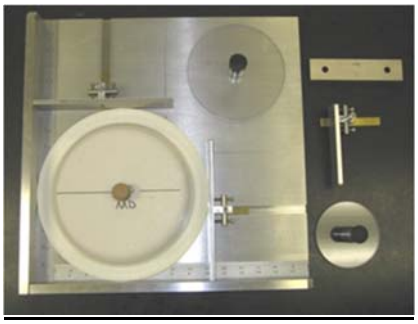
    For labeled dimensions greater than 40 cm, 30 m tape with 1 mm divisions.
  - Inch-pound Units:

    For labeled dimensions 25 in or less, use a 36 in rule with $^1/_{64}$ in or $^1/_{100}$-in divisions and an overall length tolerance of $^1/_{64}$ in.

    For dimensions greater than 25 in, use a 100 ft tape with in divisions and an overall length tolerance of 0.1 in.
- Measuring Base

Note: A measuring base may be made of any flat, sturdy material approximately 38 cm (15 in) square. Two vertical side pieces approximately 3 cm (1 in) high and the same length as the sides of the measuring base are attached along two adjoining edges of the measuring base to form a 90° corner. Trim all white borders from two or more sheets of graph paper (10 divisions per centimeter or 20 divisions per inch). Place one sheet on the measuring base and position it so that one corner of graph paper is snug in the corner of the measuring base and vertical sides. Tape the sheet to the measuring base. Overlap other sheets on the first sheet so that the lines of top and bottom sheet coincide, expanding the graph area to a size bigger than plates to be measured; tape these sheets to the measuring base. Number each line from the top and left side of base plates: 1, 2, 3, etc.

- **Plate Dimension Tester**



4.3.2. Test Procedure

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

2.* Select an initial tare sample according to Section 2.3.5.1. "Determination of Tare Sample and Average Tare Weight."

3. Open each package and select one item from each.

Note: Some packages of plates contain a combination of different-sized plates. In this instance, take a plate of each declared size from the package to represent all the plates of that size in the package. For example, if three sizes are declared, select three different plates from each package.

Note: Occasionally, packages of plates declared to be one size contain plates that can be seen by inspection to be of different sizes in the same package. In this instance, select the smallest plate and use the methods below to determine the package error. If the smallest plate is not short measure by more than the MAV, measure each size of plate in the package and calculate the average dimensions.

Example:

If five plates measure 21.41 cm (8.43 in) and 15 measure 21.74 cm (8.56 in), the average dimension for this package of 20 plates is 21.66 cm (8.53 in).

4. For paper plates **bowls or platters**: Place each item on the **plate dimension tester or** measuring base plate (or use the linear measure) with the eating surface down so two sides of the plate touch the sides of the **plate dimension tester or** measuring base. **If using the plate dimension tester, follow the test procedure for determining the plate, bowl or platter size.**

5. For other products: Use either the measuring base or a linear measure to determine actual labeled dimensions (e.g., packages of napkins, rolls of paper towels). If testing folded products, be sure that the folds are pressed flat so that the measurement is accurate.

6. If the measurements reveal that the dimensions of the individual items vary, select at least 10 items from each package. Measure and average these dimensions. Use the average dimensions to determine package error in Step 7 below.

7. The package error equals the actual dimensions minus the labeled dimensions.

4.3.3. Evaluation of Results.

Follow the procedures in Section 2.3.7. "Evaluate for Compliance to determine lot conformance.

Background/Discussion:

NIST Handbook 133, Section 4.3. Paper Plates and Sanitary Paper Products, identifies "Metric" and/or "U.S. Customary Units (Inch Pound)" steel tapes and rules or a "measuring base" as acceptable equipment for doing dimensional evaluations of paper plates and sanitary paper products. This proposal would add another acceptable piece of equipment which we call the "Plate Dimension Tester."

It is simpler, faster, and easier for an operator, technician, or regulator to use, and it is or more accurate and reproducible than the existing acceptable equipment listed in NIST Handbook 133 Section 4.3. Paper Plates and Sanitary Paper Products. For most of these types of products (11.8 in or less), the current metric rule is identified as a 30 mm rule in 1 mm divisions (0.039 in), or a 1 meter rule with 0.1 mm divisions (0.0039 in), and the inch pound rule is a 36 inch rule with $^1/_{64}$ or $^1/_{100}$ divisions (0.015 in or 0.01 in). The acceptable divisions are somewhat different. The proposed tester uses a certified steel rule with divisions of 0.02 inches which falls within the range of acceptable rules already listed in Section 4.3. Paper Plates and Sanitary Paper Products.

The measuring base described as acceptable uses graph paper with divisions of 0.05 inches. That measuring base is described and constructed as follows:

> A measuring base may be made of any flat, sturdy material approximately 38 cm (15 in) square. Two vertical side pieces approximately 3 cm (1 in) high and the same length as the sides of the measuring base are attached along two adjoining edges of the measuring base to form a 90° corner. Trim all white borders from two or more sheets of graph paper (10 divisions per centimeter or 20 divisions per in). Place one sheet on the measuring base and position it so that one corner of graph paper is snug in the corner of the measuring base and vertical sides. Tape the sheet to the measuring base. Overlap other sheets on the first sheet so that the lines of top and bottom sheet coincide, expanding the graph area to a size bigger than plates to be measured; tape these sheets to the measuring base. Number each line from the top and left side of base plates: 1, 2, 3, etc.

The submitter believes the accuracy of cutting the borders off the edges of graph paper, aligning the graph paper lines to match, and then taping them in place leaves a lot to be desired for accuracy when gathering data; especially when the expectations require the values to be read to such small increments. The plates need to touch the two sides of the measuring base which require holding the plate flat against the measuring base and changes in that pressure can alter the values. The process of using rules can also cause problems when the plate edge must be perfectly aligned with the edges of the rule and then to make sure you have measured both directions in a perfect 90° angle. We, therefore, developed the Plate Dimension Tester to solve all those problems. He submitted separately pictures of the tester, a test procedure for using the tester, a video showing the use of the tester, some reproducibility data and a letter from the Foodservice Packaging Industry (FPI), which represents 85 % of the companies producing these types of products, indicating their industry Technical Committee supports this proposal. The submitter believes his method would be a positive addition to NIST Handbook 133 without changing any of regulatory requirements; simply improving on the technical accuracy and reproducibility of the resulting data generated.

The Standard Test Method as well as additional pictures, reproducibility data and a blueprint of a Plate Dimension Tester is in the *Report of the 98th National Conference on Weights and Measures* (SP 1171, 2013), Appendix F.

2012 SWMA Annual Meeting: Mr. Richard Davis (Georgia Pacific) expressed concern with that importers are not compliant and is causing unfair competition to U.S. manufacturers (e.g., a 1/8 in shortage in a paper plate can equate to over $100,000 unfair advantage). Mr. Davis has submitted this proposal that would add an additional test method, but would not change the current test procedures (steel rule or graph paper) in NIST Handbook 133. Mr. Davis believes that this is a more accurate procedure than what is currently adopted and would provide support if challenged in court. The device has an estimated cost of $3,000 and would be available through a third party. A video was shown describing how to operate and test. An industry official expressed concern on whether the equipment and disc can be certified and calibrated by a state lab. The Committee believes that the device would provide an additional option and improved test procedure for regulators and industry. SWMA forwarded the item to NCWM, recommending it as a Voting item.

Mr. Davis provided a presentation at the 2013 NCWM Interim Meeting provided an overview on the test standard and equipment that they are proposing to use in the test procedure. Mr. Davis believes that the item presented before the Committee will allow for greater efficiency, accuracy, repeatability, and uncertainty. This device will also allow for the testing of other products such as paper towels, napkins, and sandwich bags. Ms. Carol Hockert (NIST, OWM) volunteers to take the information to the NIST Dimensional Laboratory for further accuracy testing. The Committee feels this item is developed, and is moving this item forward as a Voting item. At the 2013 NCWM Annual Meeting, the Committee believes that additional work needs to be addressed on this item. A separate NIST Handbook 133 procedure needs to be created in order to utilize the plate dimension tester. The Technical Association of Pulp and Paper Industry (TAPPI) standard that is referenced within the procedure was not made available. The procedure title may need to reflect *bowls and platters*. The Committee is returning this item to Developing status so that the submitter can develop this item.

NCWM 2013 Annual Meeting: There was testimony heard that this item needs to be furthered developed. Some spoke that it is not feasible to place the Plate Dimension Tester in the current test procedure in NIST Handbook 133 (2013). The Item Under Consideration also has a TAPPI standard reference and there was not a copy of this standards available for review. The Committee agrees that this item should be returned to the submitter for further development.

NCWM 2014 Interim Meeting: The Committee heard from a NIST Technical Advisor that they are unable to contact Mr. Davis (Georgia Pacific) whom originally submitted this proposal due to his retirement. They also tried alternative personnel with Georgia Pacific and have been unsuccessful. For these reasons, the Committee is Withdrawing this item.

Regional Association Comments:
CWMA recommended that this item be Developing. At the May 2013 Annual Meeting, CWMA recommended Voting status, and agreed that this would be an improved test method. They based their recommendation on Conference comments during the 2013 NCWM Annual Meeting, and the fact that no other information was received.

WWMA heard from a regulatory official who stated that the item lacks an actual test procedure in Section 4.3.2., and references TAPPI standards that are not included in NIST Handbook 133. The item needs further clarification and development. WWMA recommended that it be a Developing item.

NEWMA received a report at its 2013 Annual Meeting from Ms. Carol Hockert (NIST OWM) that the NIST Dimensional Laboratory reported no problems with the testing device. Based on this new information NEWMA believed this item was fully developed and recommended this as a Voting item. At the 2013 NEWMA Interim Meeting, the Committee chair reported that a regulatory official stated that the item lacks an actual test procedure in Section 4.3.2., and references TAPPI standards that are not included in NIST Handbook 133. Based on the information the NCWM L&R Committee changed the status of this item from Voting to Developing in July 2013. The item needs further clarification and development. NEWMA recommended that the item be a Developing item.

SWMA reported in 2012 that Mr. Richard Davis (Georgia Pacific) expressed concern that importers are not compliant and is causing unfair competition to U.S. manufacturers (e.g., a 1/8 inch shortage in a paper plate can equate to over $100,000 unfair advantage.) Mr. Davis has submitted this proposal that would add an additional test

method but would not change the current test procedures (steel rule or graph paper) in NIST Handbook 133. Mr. Davis believes this is a more accurate procedure than what is currently adopted, and would provide support it if challenged in court. The device has an estimated cost of $3,000, and would be available through a third party. A video was shown describing how to operate and test. An industry official expressed concern on whether the equipment and disc can be certified and calibrated by a state lab. The Committee believes that the device would provide an additional option and improved test procedure for regulators and industry. SWMA forwarded the item to NCWM, recommending it as a Voting item. At the 2013 Annual Meeting, the SWMA supported the item remaining as a Developing item on the NCWM agenda, that the TAPPI standard referenced in the procedure be made available, and that the procedure for using the apparatus be developed and included.

Additional letters, presentations, and data may have been part of the Committee's consideration. To review the supporting documentation, please refer to the *Report of the 98th National Conference on Weights and Measures* (SP 1171, 2013).

270 OTHER ITEMS

270-1 D Fuels and Lubricants Subcommittee

Source:
The Fuels and Lubricants Subcommittee (2007)

Purpose:
Update the Uniform Engine Fuels, Petroleum Products, and Automotive Lubricants Regulation in NIST Handbook 130 including major revisions to fuel ethanol specifications. Another task will be to update the Basic Engine and Fuels, Petroleum Products, and Lubricants Laboratory Publication.

Item Under Consideration:
This item is under development. All comments should be directed to Dr. Matthew Curran, FALS Chair at (850) 921-1570, matthew.curran@freshfromflorida.com, or Ms. Lisa Warfield, NIST Technical Advisor at (301) 975-3308, lisa.warfield@nist.gov.

Background/Discussion:
The Subcommittee met on January 24, 2007, at 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 NIST Handbook 130. The Subcommittee also met at the 2007 NCWM 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.

Regional Association Comments:
CWMA supports the ongoing work of FALS.

WWMA received an update from the FALS Chair on items currently under discussion: 1) A workgroup has been formed to address organic metallic additives (MMT); 2) A proposal has been submitted to develop a quality standard for Diesel Exhaust Fluid DEF; 3) Consideration is being given to reviewing regulations in their entirety to ensure harmonization with EPA regulations and references; and 4) ATF regulations will be reviewed. Committee supports the ongoing work of the FALS.

SWMA supported the continuing work of the Fuels and Lubricants Subcommittee.

Additional letters, presentations, and data may have been part of the Committee's consideration. To review the supporting documentation, please refer to the *Report of the 98th National Conference on Weights and Measures* (SP 1171, 2013).

270-2 D Packaging and Labeling Subcommittee

Source:
Packaging and Labeling Subcommittee (2011)

Purpose:
Provide notice of formation of a new Subcommittee reporting to the L&R Committee.

Item Under Consideration:
This item is under development. All comments should be directed to Mr. Chris Guay, Packaging and Labeling Subcommittee Chair, at (513) 983-0530, guay.cb@pg.com or Mr. David Sefcik, NIST Technical Advisor at (301) 975-4868, david.sefcik@nist.gov.

Background/Discussion:
NCWM 2011 Interim Meeting: The PALS met for the first time to discuss ongoing issues and agenda items in regards to packaging and labeling regulations. There were 11 attendees that represented industry, state and county regulatory officials, and the NIST Technical Advisor.

The mission of PALS is to assist the L&R Committee in the development of agenda items 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 NIST Technical Advisor reported that FTC will do a review of FPLA in 2013. The 2011 L&R Committee designated this item as a Developing item and assigned its development to PALS.

NCWM 2012 Interim Meeting: PALS met to discuss its formation and strategy. The NCWM Chairman will appoint eight voting members on the Committee to consist of four regulatory officials (one from each region) and four from industry (two retailers and two manufacturers). Mr. Guay, PALS Chair, reported that work will be done through webinar meetings to be held approximately four times a year. PALS members will be responsible for providing updates and seeking feedback on the issues at their regional meetings. Mr. Guay added that PALS will be developing proposals and providing guidance and recommendations on existing proposals as assigned by the NCWM L&R Committee. He also stressed the need and importance of having key federal agencies (FDA, FTC, and USDA) participating. The NIST Technical Advisor commented that FTC announced that they will review the FPLA in 2013. The 2012 L&R Committee designated this item as a Developing item and assigned its development to PALS.

NCWM 2012 Annual Meeting: Mr. Guay reported the Subcommittee is considering further development of the following items:

- **Additional Net Content Declarations on the Principal Display Panel** – Package net contents are most commonly determined by the product form, for example, solid products are labeled by weight, and liquid products are labeled by volume. Semi-solid products such as pastes, creams, and viscous liquids are required to be labeled by weight in the United States and by volume in Canada.
- **Icons in Lieu of Words in Packaged labeled by Count** – Can a clear, non-misleading icon take the place of the word "count" or "item name" in a net content statement? While existing Federal regulation requires regulatory label information to be in "English," the increasing presence of multilingual labels and the growing diversity of the U.S. population suggest more consumers are served with a clear and non-misleading icon.
- **Multilingual Labels**

- **Multipacks and Bundle Packages** – The net content statements for multipacks and bundled packages of individually labeled products can be different based on the approach used to calculate them. The difference is the result of the degree of rounding for dual inch-pound and metric declarations. Using two apparently valid but different methods can yield one net content statement result, that provide better accuracy between the metric and inch-pound declarations and a different net content result which is consumer friendly.

SWMA 2012 Annual Meeting: Mr. Guay stated Item 231-1 has been assigned to PALS for a recommendation. PALS is working on a series of principles and recommendations regarding claims and statements made on packages outside of quantity statement (i.e., supplemental, quality and performance claims), on what is appropriate and what is not. PALS will recommend that Item 231-1 be Withdrawn. PALS is also looking at whether icons are appropriate as part of a quantity statement and how labeling of products with multilingual labels can be simplified. SWMA recommended that the item remain as a Developing item.

NCWM 2013 Interim Meeting: James Kohm (Director of Enforcement at the Federal Trade Commission [FTC]), briefed NCWM on the goals and objectives of FTC. Mr. Kohm gave a general overview of the Fair Packaging and Labeling Act (FPLA) and announced that it is under review in 2013.

Mr. Chris Guay provided an update on the action of PALS. PALS will be focusing on best practice principles for the various quantity and quality statements seen in the marketplace. PALS will also continue to work on the items addressed at the 2012 Annual Meeting.

NCWM 2014 Interim Meeting: Mr. Guay (PALS Chair) stated that they are awaiting an announcement from FTC in regards to updating the FPLA regulations.

Regional Association Comments:
CWMA acknowledged that PALS is still waiting on FTC to update FPLA regulations. During previous meetings, the PALS Chair stated that there is a need to prioritize labeling issues.

WWMA received an update from the PALS Chair: (1) The subcommittee is developing recommendations regarding good principles and best practice guidelines on label claims and quantity statements on packages; and (2) The subcommittee is drafting comments to FTC on recommended changes to FPLA. The Committee supports the ongoing work of the PALS.

SWMA heard in 2012 from Mr. Guay who stated that Item 231-1 has been assigned to PALS for a recommendation. PALS is working on a series of principles and recommendations regarding claims and statements made on packages outside of quantity statement (i.e., supplemental, quality and performance claims), on what is appropriate and what is not. PALS will recommend that 231-1 be Withdrawn. PALS is also looking at whether icons are appropriate as part of a quantity statement and how labeling of products with multilingual labels can be simplified. SWMA recommended that the item remain as a Developing item. At the 2013 SWMA Annual Meeting the association supported the work of the PALS remaining as a Developing item on the NCWM agenda.

Additional letters, presentations, and data may have been part of the Committee's consideration. To review the supporting documentation, please refer to the *Report of the 98th National Conference on Weights and Measures* (SP 1171, 2013).

270-3 D Moisture Allowance Task Group (MATG)

Source:
Moisture Allowance Task Group (2012)

Purpose:
Provide notice of formation of a new Task Group reporting to the Committee. This Task Group will provide additional guidance for making moisture allowances for products not listed in NIST Handbook 133.

Item Under Consideration:
This item is under development. All comments should be directed to Mr. Kurt Floren, Moisture Allowance Task Group Chair at (626) 575-5451, kfloren@acwm.lacounty.gov or Ms. Lisa Warfield, NIST Technical Advisor at (301) 975-3308, lisa.warfield@nist.gov

Background/Discussion:
NCWM 2012 Interim Meeting: Ms. Judy Cardin, Committee Chair, will be requesting that the NCWM Board of Directors form a new Task Group to review moisture allowance. The 2012 L&R Committee designated this item as a Developing item.

NCWM 2012 Annual Meeting: Mr. Floren (Los Angeles County, California) announced that he will Chair the Moisture Allowance Task Group.

NCWM 2013 Interim Meeting: Mr. Floren announced that he is seeking a representative from each region for the MATG. He would prefer to have a representative from each region. Currently the following have regions have provided a representative; NEWMA, Mr. Frank Greene, (Connecticut) and WWMA, Mr. Brett Gurney (Utah). The following individuals have also expressed interest: Ms. Maile Hermida (Hogan Lovells US, LLP), Ms. Ann Boeckman (Kraft Foods Group), and Mr. Chris Guay (Procter and Gamble Co.). Mr. Floren remarked that meetings will be held via web-meetings and at the NCWM Conferences.

NCWM 2014 Interim Meeting: The MATG discussed how to proceed forward on this item and reviewed past history of prior work done.

Regional Association Comments:
CWMA acknowledged that a committee is being formed.

WWMA received a report from the MATG Chair that progress has been made in the formation of work group and regional representation. A teleconference will be scheduled. The Committee supports the anticipated work of MATG.

SWMA reported in 2012 that the Committee supported the formation of the moisture loss work group. SWMA recommended that the item remain as a Developing item. At the 2013 SWMA Annual Meeting, the association supported the work of the MATG remaining as a Developing item on the NCWM agenda.

Additional letters, presentations, and data may have been part of the Committee's consideration. To review the supporting documentation, please refer to the *Report of the 98th National Conference on Weights and Measures* (SP 1171, 2013).

Mr. Raymond Johnson, New Mexico | Committee Chair
Mr. Tim Lloyd, Montana | Member
Mr. Richard Lewis, Georgia | Member
Mr. Louis Sakin, Towns of Hopkinton/Northbridge, Massachusetts | Member
Mr. John Albert, Missouri | Member

Mr. Steven Grabski, Wal-Mart Stores | Associate Membership Representative
Mr. Lance Robertson, Measurement Canada | Canadian Technical Advisor
Mr. David Sefcik, NIST, OWM | NIST Technical Advisor
Ms. Lisa Warfield, NIST, OWM | NIST Technical Advisor

Laws and Regulations Committee

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