

## Laws and Regulations Committee Interim Agenda

Joe Gomez, Chairman  
Las Cruces, New Mexico

Reference  
Key Number

### 200 INTRODUCTION

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

This agenda contains recommendations to amend National Institute of Standards and Technology (NIST) Handbook 130, “Uniform Laws and Regulations,” (2009), and NIST Handbook 133, “Checking the Net Contents of Packaged Goods,” (2005) Fourth Edition. Revisions proposed for the handbooks are shown in **bold face print** by ~~crossing out~~ information to be deleted and underlining information to be added. Additions proposed for the handbooks are designated as such and are shown in **bold face print**. Proposals presented for information only are designated as such and are shown in *italic* type. “SI” means the International System of Units. “FPLA” means the Fair Packaging and Labeling Act. The section mark, “§,” is used in most references in the text and is followed by the section number and title, (for example, Section 1.2. Weight). When used in this report, the term “weight” means “mass.”

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### Subject Series

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**Table C**  
**Glossary of Acronyms**

API	American Petroleum Institute	L&R	Laws & Regulations Committee
ASTM	American Society for Testing and Materials International	LPG	Liquefied petroleum gas
ATC	Automatic Temperature Compensation	NCWM	National Conference on Weights & Measures
ATCSC	Automatic Temperature Compensation Steering Committee	NEWMA	Northeast Weights & Measures Association
BOBs	Blend stock for Oxygenate Blending	NTEP	National Type Evaluation Program
CEC	California Energy Commission	S&T	Specifications & Tolerances Committee
CWMA	Central Weights & Measures Association	SMA	Scale Manufacturers Association
FALS	Fuels and Lubricants Subcommittee	SWMA	Southern Weights & Measures Association
FDA	Food and Drug Administration	USDA	U.S. Department of Agriculture
GAO	Government Accountability Office	WG	Work Group
HB 44	NIST Handbook 44	WMD	NIST Weights & Measures Division
HB 130	NIST Handbook 130	WWMA	Western Weights & Measures Association
HB 133	NIST Handbook 133		

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**Daily Schedule**

**Sunday, January 11**

1:30 p.m. - 2:45 p.m.

**Committee Review Session:** This session is open to all NCWM members but participation in discussions is usually limited to members of the Committee.

2:45 p.m. - 5:00 p.m.

**Moisture Loss Working Group:** Participation is open to all NCWM members.

**Monday, January 12**

**L&R Committee Open Hearings:** Comments will be accepted on the following topics during the L&R Committee session:

9:30 a.m. - 5:00 p.m.

- 232 Method of Sale of Commodities Regulation
- 237 Engine Fuels, Petroleum Products and Automotive Lubricants Inspection Regulation
- 260 NIST Handbook 133
- 270 Other Items – Developing Items

**Tuesday, January 13**

8:30 a.m. - 12:00 p.m.

**Committee Open Hearings (continued):** Comments will continue to be accepted on the above topics if the session is not completed on Monday.

1:00 p.m. - 5:00 p.m.

**Committee Work Session:** This session is open to all NCWM members but participation in the discussions is usually limited to members of the Committee.

**Wednesday, January 14**

8:30 a.m. - 11:00 a.m.

**Committee Work Session:** This session is open to all NCWM members but participation in the discussions is usually limited to members of the Committee.

11:00 a.m. - 12:00 p.m.

**Joint Session with all Standing Committees**

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**Details of all Items**  
(In order by Reference Key Number)

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**232 METHOD OF SALE REGULATION****232-1 Automatic Temperature Compensation (ATC) for Petroleum Products**

**Background/Discussion:** At the 2007 Annual Meeting the Committee received 18 comments requesting this item be made Informational to allow the Committee time for additional study and deliberation. The Committee believed the concerns of the commentators were valid, but they were issues to be addressed by the S&T and NTEP Committees. Additional studies of the method of sale proposal would not bring anything new to the current recommendation that could not be addressed through further revisions next year if needed. The Committee believed adopting this proposal would provide guidance to policymakers and others currently considering action on temperature compensation at the national, state, or local level. Jurisdictions opposing the proposal because their state laws or their policies were against it would not be affected by the adoption of this method of sale because their laws prohibited it. The implementation of temperature compensation will be a slow process primarily because there is not an existing nationally approved temperature-compensation device, and NIST HB 44 must be revised to set forth the specifications, tolerances, and other technical requirements for this technology. NTEP will then need to undertake this work where needed. The Committee acknowledged that some states may move ahead with their own type approvals to allow temperature compensation. The majority of the Committee believed the proposed method of sale was ready for NCWM adoption as there was not a reasonable justification for delaying the adoption of the proposal as presented. Therefore, the Committee recommended adoption of this item. This item was subjected to a lengthy discussion at the general voting session and several issues were raised along with calls for further study. The vote in the House of Representatives was 23 yeas and 16 nays while the vote in the House of Delegates was 24 yeas and 16 nays; therefore, the item did not garner enough support to pass. When an item does not clearly pass or fail under NCWM procedures, it is carried forward for reconsideration by the appropriate committee.

At the 2008 Interim Meeting, the Committee considered the recommendations and comments received from the consumer groups, petroleum marketers associations, and independent business operators on this issue. The Committee received written comments (refer to L&R Appendix A from the report of the 93<sup>rd</sup> NCWM Annual Meeting (2008) for written comments received on this item). During the open hearings, the committee received comments, opinions, and concerns from more than 36 attendees. Opponents of the regulation argue that it may put the small business owners out of business due to the cost to retrofit their older equipment. A majority of the opposing comments argued that consumers would pay more for fuel at the pump to cover the implementation of ATC and that they would receive no benefit from the change in methods of sale. The comments also expressed concern that weights and measures officials would burden their already strained resources because of the additional time that would be needed to test pumps equipped with ATC. There was a recommendation that, if the proposed method of sale were adopted, an exemption be included for the small business owner. Several speakers said the only winners in ATC are the equipment and testing companies, lawyers, and lobbyists.

Supporting comments were received from a few state and local officials, an organization of independent truckers and a consumer advocacy group. Supporters argued that consumers obtaining gas in “hot spots” are not getting what they pay for when they purchase fuel. A few jurisdictions requested that the NCWM act to provide a uniform national standard should retailers begin selling on the basis of temperature compensated deliveries in states where the practice is permissive. Concern was voiced over the possibility that national uniformity in the method of sale of fuels at retail will diminish if some jurisdictions allow temperature compensation at retail stations while others do not. It was decided to make this item Informational, so that additional information and data could be received.

At the 2008 Annual Meeting it was reported that the California Energy Commission (CEC) is conducting a study entitled “AB868 Fuel Delivery Temperature Study.” One of the goals of this study will be to determine what impact ATC will have on consumers, businesses, agencies and the marketplace within the State of California. The CEC advisory panel held three public meetings prior to the NCWM Annual Meeting in July. In September 2008, the CEC panel has plans to publish preliminary staff findings and recommendations. Two members requested that this item be developed to assist states where ATC is prohibited by a state law or regulation.

The Government Accountability Office (GAO) is actively working on a study on ATC. GAO submitted the following statement to the NCWM since they were not able to attend the 2008 NCWM Annual Meeting.

At the request of the Chairman of the House Committee on Science and Technology, the United States Government Accountability Office (GAO) is conducting a review of the issues surrounding automatic temperature compensation in the retail sales of motor vehicle fuels. This fall the GAO plans to release a report that provides information on 1) the views of stakeholders on the costs related to the use of automatic temperature compensation devices; 2) who would bear the costs of implementation and the support for those views; 3) other factors that might affect the decision of whether or not to install such devices; and 4) the reasons some states and nations have promoted or rejected implementation of automatic temperature compensation. In its work GAO has or will interview stakeholders including state, federal, and international officials as well as representatives of industry and consumer organizations.

The Committee will continue to monitor the progress of the CEC and GAO studies. The Committee agrees with the majority of the comments that the cost and benefits of temperature compensation at the retail level are still unknown. The members unanimously agreed that further information is needed before a proposal for a temperature compensation method of sale can be considered by the NCWM. For the reasons detailed above and in the written comments (refer to L&R Appendix A from the report of the 93<sup>rd</sup> NCWM Annual Meeting (2008) for written comments received on this item), this item was kept in Informational status.

The CEC canceled the September 19, 2008 and October 27, 2008 Fuel Delivery Temperature (AB868) study committee workshops. CEC will hold a workshop on Tuesday, December 9, 2008. The final AB868 report is scheduled to be delivered to the California Legislature on February 12, 2009.

The GAO report was released in October 2008. The report can be viewed at [www.gao.gov/new.items/d081114.pdf](http://www.gao.gov/new.items/d081114.pdf) (refer to Table B Appendix A). The report summarizes that there is technology available to compensate for the effects of temperature on gas volume but the costs to implement ATC remain unclear. Benefits of ATC reflect improved measurement accuracy and greater equity between retailers and consumers. For those that oppose ATC it is argued that the cost to upgrade existing equipment would pose an economic hardship on retailers.

Information on the consideration of this item by the Regional Associations following the NCWM Annual Meeting in July 2007 is presented below. Items are broken out by region with the earliest information appearing first in the report.

**Central Weights and Measures Association (CWMA):** This is an excerpt from the report of the CWMA's Laws and Regulations Committee, which considered this item at its 2007 Interim Meeting in Bettendorf, Iowa, on September 16 - 19, 2007. (Full report is available at [www.ncwm.net/central/lr/lr\\_2007\\_interim.doc](http://www.ncwm.net/central/lr/lr_2007_interim.doc).)

The CWMA L&R Committee reported that it received:

...considerable testimony both in support and opposition of the Temperature Compensation proposal during the open hearings. Many industry representatives opposed the item due to the anticipated cost of equipment and the lack of data that supports whether a better system of measurement is worth the cost. The CWMA L&R Committee cannot support the item as proposed due to the considerable opposition to the permissive language. Several state regulators feel that if permissive is adopted, it will be implemented in the northern states, not in the southern states where there appears to be more pressure to implement temperature compensation. A good example of this was given that in Canada where temperature compensation is allowed, it is not widely used in areas west of the Rockies where the climate is more temperate. The Committee further feels that making the item "Informational" will not resolve the issue. The most requested information of a cost-benefit analysis is not currently being conducted by any organization. Although several statements were made that temperature compensation may be a more equitable method of sale, many stated that it is not "perfect" nor will it resolve current issues of fraud such as artificial heating of fuel. To address the concern of "hot spots," the Committee discussed the

option of amending the proposal to exclude sales at retail based upon the flow rate of dispensers as previously proposed. The Committee feels that another potential solution for a more equitable method of sale is to formulate an alternate proposal to change the method of sale to mass. Technology exists to sell motor fuel through mass flow meters. This method of sale would be more equitable for all types of fuel including alternative fuels which would allow consumers to make value comparisons. The Committee expects that the ATC Steering Committee will provide more information which will provide direction to the conference on this issue. We look forward to their information which will provide answers to many questions. Based upon the testimony heard, the Committee recommends that the item be Withdrawn. Note: In response to the ATC Steering Committee request, the CWMA L&R Committee suggests that if this proposal goes forward as a Voting item, that there be a mandatory implementation date with little to no permissive period as a transition.

At the CWMA 2008 Annual Meeting, the L&R committee recommended that this item continue to remain Informational. They heard from an industry representative that this item does not resolve the issue of consumers being shorted at the pump. This representative further commented that there are alternative methods for measuring BTU contents, but does not support these alternative methods. A regulatory official opposed the word "permissive."

During the CWMA Interim Meeting held September 14 - 17, 2008, in Rock Island, Illinois, the CWMA L&R Committee continued to oppose the word "permissive" in the current language of this proposal. In addition, they would like to review the GAO and CEC reports to assess their relevance.

**Northeastern Weights and Measures Association (NEWMA):** This is an excerpt from the report of the Laws and Regulations Committee meeting held at that association's 2007 Interim Meeting in Springfield, Massachusetts, on October 9 - 10, 2007.

It is clear from the majority of comments received (both in written and oral form) that strong opposition exists to the item as proposed, especially the inclusion of permissive ATC sales. NEWMA could not support an item which allowed for two methods of sale. Confusion would be widespread. Additionally, the item raises far too many questions and uncertainties that to date have not been answered. Further research must be conducted to answer those questions. The National Conference on Weights and Measures is an organization made up of weights and measures officials and industry representatives that consistently over the years has worked as a consensus organization. A consensus on this item does not exist and the item should be Withdrawn. Making the item "Informational" would not bring us to the needed consensus.

At the 2008 NEWMA Annual Meeting this issue was discussed extensively. NEWMA would like to see wording developed in the method of sale to assist states where ATC is prohibited by state law or regulation. In the past, NEWMA had recommended a method of sale of gross gallons at retail only. They would like to have further development of the method of sale of gross gallons at retail. This could possibly be reviewed as a separate item.

NEWMA held their 2008 Interim Meeting October 15 - 16 in Springfield, Massachusetts, members discussed the viability of submitting a proposal to NCWM to mandate that all sales of retail motor fuel be sold by "gross gallons" (ambient temperature). This would counter the argument "if it is not prohibited, then it is permitted." Also, it would exempt states which choose to permit ATC. The consensus of NEWMA is that ATC should be a "state issue." Although the majority of members would be comfortable with this, it was debated whether the "timing" of such a proposal may be premature. The debate resulted with a consensus to develop the proposal and postpone any action with it until the California (CEC) study is complete.

The GAO report was released in October 2008, and after reviewing this report NEWMA members were disappointed by its conclusion. Comments within the report included "the continued uncertainties outlined by the GAO support the argument that no action be taken to adopt Automatic Temperature Compensation."

NEWMA recommends that this item remain Informational.

**Western Weights and Measures Association (WWMA):** The WWMA had an Annual Meeting September 9 - 13, 2007, in Lake Tahoe, Nevada. It voted to recommend that the Committee move a modified version of the original proposal forward as a Voting item at the 2008 NCWM Annual Meeting. The WWMA recommended removal of the term “Permissive” from the title in Section 2.30. *Refined Petroleum Products – Permissive-Temperature Compensation*. The full report is available from NIST WMD.

WWMA met in Anchorage, Alaska, September 7 - 11, 2008. It recommended that this item continue to remain Informational. WWMA would like to review the CEC report. It was requested from an industry representative that NCWM work on developing a temperature statistical analysis and to define “what is the problem” and “what is the solution” to this issue. Industry voiced concern on the cost of implementing ATC and how it will affect the retailers and consumers. On the other hand, a state W&M official expressed that something should be in place for when ATC does become available and used in the marketplace.

**Southern Weights and Measures Association (SWMA):** The SWMA held its Annual Meeting October 21 - 24, 2007, in Little Rock, Arkansas. It voted to recommend that the Committee move a modified version of the original proposal forward as a Voting item at the 2008 NCWM Annual Meeting. The amendments and other changes proposed by the SWMA are presented below. (The full report is available from the NIST L&R Technical Advisor)

The SWMA L&R Committee heard opposition to permissive temperature compensation for retail and other meters during the open hearing primarily from industry representatives many of whom suggested that further study was needed to determine if the cost versus benefit justified adoption of the original proposal. The Committee agrees that more information would be helpful in determining the value of using ATC on retail motor-fuel dispensers that are marked to deliver less than 30 gallons per minute. Several comments called for the withdrawal of the item but the Committee recognized that the item will be on the NCWM L&R Interim Agenda in 2008 because it was carried over from the 2007 Annual Meeting and because the Western Weights and Measures Association supported adoption of the original item at its recent meeting. The Committee also believes that withdrawing this item as some regions have suggested would only delay consideration of this issue, which has been on the NCWM agenda in one form or another for almost a decade, because the item would likely be resubmitted by a regional association. There were other comments recommending that no further action be taken on this item or that it be tabled. One comment suggested that the original proposal be amended to limit the method of sale to Loading-Rack Meters, Vehicle-Tank Meters and Retail Dispensers which are marked to deliver 30 gallons per minute or more (which are typically used in making larger quantity deliveries at truck stops). The Committee believes that separating large flow meters (some of which are already equipped with ATC) from the proposal may reduce the opposition to the proposed method of sale for ATC. A majority of the Committee recommends the following to the SWMA for adoption.

SWMA recommendation to the NCWM L&R Committee:

1. Remove the word “Permissive” from the title of the proposed method of sale for ATC.
2. Divide the item into two separate proposals.
  - a. For retail motor-fuel dispensers marked to deliver less than 30 gal/min, make it Developmental and recommend that the NCWM ATC Steering Committee lead or coordinate a study to determine if the cost/benefit justifies the implementation of ATC.
  - b. For retail motor-fuel dispensers marked to deliver 30 gal/min or more, amend the method of sale proposal and establish a mandatory implementation date. The SWMA recommends that the NCWM L&R Committee move this item for adoption at the 2008 Annual Meeting with the following amendments:



- i. Amend Section 2.30.2. to read: When products are sold on the basis of temperature-compensated volume through Loading-Rack Meters, Vehicle-Tank Meters and Retail Motor-Fuel Dispensers marked to deliver 30 gal/min or more.
- ii. Add an implementation date of 10 years from date of adoption.

The SWMA held its Annual Meeting in Atlanta, Georgia, October 5 - 8, 2008. The Committee supports this item to remain Informational until they can review the reports and documentation issued by (CEC).

### **METHOD OF SALE PROPOSAL DEVELOPED BY THE NCWM ATCSC**

The Method of Sale is presented in two parts. Part I includes a proposed method of sale developed by the NCWM Automatic Temperature Compensation Steering Committee (ATCSC). Part II includes the original recommendation for a method of sale developed by the Committee at the 2007 Interim Meeting. Part II was not adopted at the 2007 NCWM Annual Meeting.

#### **Part I. Automatic Temperature Compensation Steering Committee (ATCSC) Background and Recommended Method of Sale**

**Background:** The ATCSC held a meeting August 27 - 29, 2007, in Chicago, Illinois, to address issues associated with potential implementation of ATC for retail motor fuel. Valuable input was received during that meeting from marketers, manufacturers, consumers, and regulatory officials. Following the meeting, the ATCSC continued to receive input from the four regional weights and measures associations.

It is not the charge of the ATCSC to endorse or oppose the implementation of ATC at retail. The ATCSC is tasked with addressing issues associated with the implementation of ATC to assist the NCWM membership in coming to a consensus on the issue. The proposals of the ATCSC reflect the committee's opinion on the best approach to ATC if NCWM votes to implement it.

The ATCSC considered the following discussion points in forming a proposal for the Method of Sale Regulation:

#### **1. Permissive vs. Mandatory ATC**

In cold climates, voluntary introduction of ATC can be fairly successful. In regions where fuel temperatures average below 60 °F, a retailer who implements ATC could lower the unit price while maintaining the same profit margin. This acts as an enticement for retailers to take that step. Conversely, in regions where fuel temperatures average above 60 °F, retailers would find it necessary to raise the unit price to maintain profit margins. As a result, it could be expected that, under a permissive implementation, cooler regions will see implementation of ATC while warmer climates will not. In regions where there is no definite advantage one way or the other, it is possible that consumers will find price and quantity comparisons impossible between retail outlets that compensate and outlets that do not.

The preamble to the Method of Sale Regulation states, "The purpose of this regulation is to require accurate and adequate information about commodities so that purchasers can make price and quantity comparisons." The ATCSC is convinced that introduction of ATC in the marketplace without making ATC mandatory is in direct conflict with the purpose of the regulation. Therefore, the ATCSC proposal provides a transition to ATC where the equipment is made available, followed by a period of time when ATC may be implemented (turned on), followed by a date when ATC would be mandatory. The timeline for this transition should provide a reasonable timeframe for natural replacement of the majority of dispensers in the country.

It is unclear whether ATC would provide a cost savings to consumers in the United States; the ATCSC believes we must make this decision based on facts and data. ATC is a superior method of measurement that provides a higher degree of transparency in unit pricing. With mandatory ATC at retail, consumers would have assurance that, no matter where they choose to purchase motor fuel, the price stated represents a gallon at 60 °F. This level of transparency does not exist in a gross gallon market or a permissive ATC market.

## **2. Referencing 60 °F and 15 °C**

The ATCSC realized that the difference between 60 °F and 15 °C is relevant and must be rectified. Testimony disclosed that many international markets have established 60 °F as the reference temperature. This practice is also implemented throughout the U.S. distribution of petroleum products. One option is to only reference 60 °F, but this approach conflicts with the NCWM's commitment to acknowledge the metric system. To balance the need to recognize the metric system without disrupting the current marketing practices throughout the production and distribution system in the United States, the ATCSC recommends referencing 60 °F with the metric equivalent of 15.56 °C. The ATCSC proposes the use of 60 °F (15.56 °C) as the reference temperature for both gallons and liters to maintain a common reference temperature in the United States when both gallons and liters are used. However, the ATCSC recognizes that when liters are used as the volume measurement unit in other countries, then the reference temperature of 15 °C is used. The ATCSC recommends that other parties provide input to the NCWM committees on this subject for further discussion.

## **3. Establish Standardized Product Densities for Calculating Volume Correction Factors**

To implement ATC for retail motor fuel, there must be an agreement on product densities to be used in volume correction factors. In late July 2007, the ATCSC conducted an outreach to accumulate data on the densities for various products falling under ASTM Committee D02 standards across the United States. Outreach went to weights and measures jurisdictions, the Alliance of Automobile Manufacturers, and the American Petroleum Institute. The ATCSC also considered standard densities used in Canada for temperature compensation. The ATCSC set out to use this data to develop a single set of standard densities to be used throughout the country for volume correction factors. Details of this item can be reviewed in the reports of the ATCSC, which are available at [www.ncwm.net](http://www.ncwm.net) on the Internet.

There was much discussion on whether to reference standard density as Canada has done, or reference standard API gravity as is done throughout much of the U.S. petroleum market. Ultimately, the ATCSC has opted to reference standardized API gravity for the following products based on the density data it has reviewed.

- 62 API for gasoline, including ethanol blends up to E10
- 37 API for No. 2 diesel, including biodiesel blends up to B20

More data are needed to determine standard densities for additional products such as No. 1 diesel and higher blends of biodiesel and ethanol.

## **4. Disclosure – Street Signs, Dispensers, Receipts or Invoices, and Other Advertisements**

Based on comments the ATCSC received, the following issues were considered regarding disclosure when ATC is in use.

- Terminology needs to be uniform to assist consumer recognition.
- Disclosure on street signs must be prominent to be seen and not too wordy to allow for easy recognition by motorists while operating their vehicles.
- Disclosure on the dispenser should be near the display of volume delivered.
- Any other advertising of unit price for motor fuel should also disclose if it represents the price of temperature-compensated volume.
- Examples were provided of disclosure labeling for dispensers in Canada for the ATCSC's consideration.

The ATCSC recommends a simple, uniform, and prominent display of "ATC" on street signs. It will eventually become understood and recognized by motorists. For disclosure on dispensers, receipts, or invoices, the ATCSC

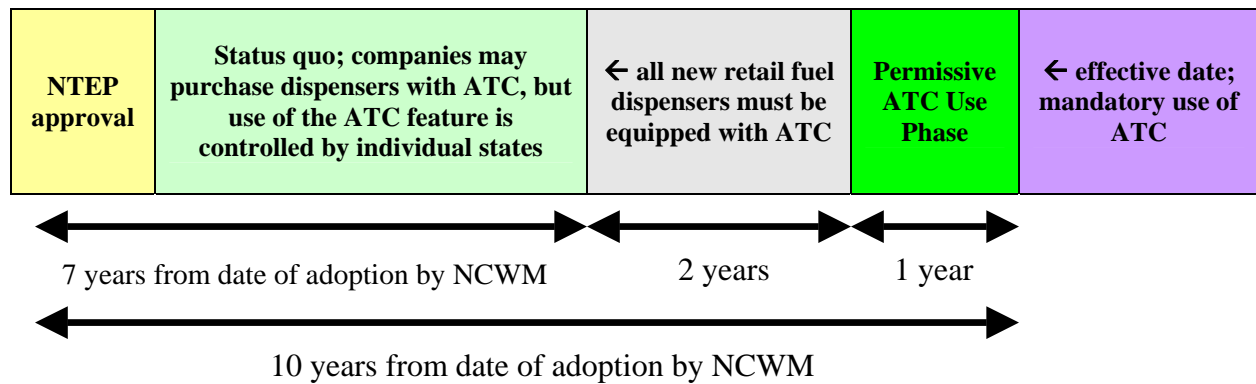
recommends the statement, “Volume Corrected to 60 °F.” This follows the model found in Canada and seems to be clear and concise.

**5. Implementation**

Following the August 27 - 29, 2007, meeting of the ATCSC, its members suggested several options that could be considered to address the implementation of ATC in the United States. The ATCSC discussed different proposals and comments made at the meetings of the regional weights and measures associations on this subject. While it is not the charge of the ATCSC to endorse or oppose the implementation of ATC at retail, it is tasked with addressing issues associated with the implementation of ATC. The proposal will also allow ATCSC to assist NCWM membership in coming to consensus on the issue. Hence, the ATCSC discussed the various options again and has decided to recommend a single option to the NCWM’s Specifications and Tolerances Committee and Laws and Regulations Committee for consideration.

The recommended option is shown below.

**Implementation Option:**



**Discussion (ATCSC):** The ATCSC believes that if temperature compensation is adopted for the retail sales of refined petroleum products, then the ultimate goal is to have mandatory use of ATC to provide a single method of sale. The time period before the mandatory use of ATC is a debatable point. The ATCSC recommends that 10 years after the adoption of an ATC method of sale, using temperature compensation should be mandatory. During the first 7 years after adoption, the use of ATC should be controlled by the individual states based upon existing state laws and regulations. A relatively short period of time (2 years) is suggested during which new dispensers must be equipped with ATC capability before permissive use of ATC would be permitted. This will allow station owners to decide, based on their business needs and plans, when to buy dispensers equipped with ATC and this limits the time period during which they could not use the feature after being purchased. This requirement should be placed in NIST HB 44, as a nonretroactive requirement, to address this design requirement.

The time period for the permissive use of ATC should be kept reasonably short to reduce the potential confusion that may exist in the marketplace when both compensated and uncompensated sales occur. One year is a recommended time period for the permissive use of ATC. The ATCSC discussed whether to have different implementation dates for large and small service stations based upon throughput. The ATCSC recommends a single implementation date for all service stations to reduce the time period during which gasoline and diesel fuel will be sold in compensated and uncompensated volumes. A short time period must be provided for the permissive use of ATC. Time is needed to activate the ATC capability in dispensers equipped with ATC and to allow service companies and weights and measures officials to test the accuracy of dispensers equipped with ATC.

Under this implementation plan, there will be a 7-year period of continued uncertainty regarding the legal method of sale of these products. Some have argued that the lack of definitive language in setting a method of sale means that any volume unit is acceptable, compensated or uncompensated. This is based on the principle that laws proscribe activity. All other activities, not proscribed, are legal. Another interpretation is the broad policy change made by the NCWM in 1969 and 1970 in adopting specific language on ATC use. Language in NIST HB 44 was clear and

directed specifically, and solely, to wholesale sales of petroleum products and for both wholesale and retail sales of LPG products. The ATCSC believes that inevitably each state will have to resolve this issue, unless it is resolved for us through federal class action suits currently pending.

### **Alternative Proposal for a Method of Sale for Engine Fuels and Non-Engine Fuels**

**Source:** The NCWM Automatic Temperature Compensation Steering Committee (ATCSC).

#### **2.31. Engine Fuels and Non-Engine Fuels.**

##### **2.31.1. Definitions.**

**2.31.1.1. Engine fuel – any liquid or gaseous matter used for the generation of power in an internal combustion engine.**

**2.31.1.2. Non-engine fuel. – any liquid or gaseous matter used for the generation of heat, power, or similar uses.**

**2.31.1.3. Temperature correction. – the process of correcting volume measurements at any temperature to an equivalent volume at a reference temperature.**

**2.31.1.4. Net volume. – the volume after temperature correction.**

**2.31.1.5. Gross volume. – a volume measurement that has not been subject to temperature correction.**

##### **2.31.2. Quantity.**

###### **2.31.2.1. Quantity, Wholesale Transactions.**

- (a) **All engine fuels and non-engine fuels shall be sold, offered, or exposed for sale to wholesale customers either in terms of liquid volume in liters or gallons or barrels, or in terms of liquid volume automatically temperature corrected to 60 °F (15.56 °C) in liters or gallons or barrels.**
- (b) **Effective January 1, 200X, all engine fuels and non-engine fuels shall be sold, offered, or exposed for sale to wholesale customers in terms of liquid volume automatically temperature corrected to 60 °F (15.56 °C) in liters or gallons or barrels.**
- (c) **When engine fuels and non-engine fuels are sold temperature corrected to wholesale customers:**
  - (1) **Correction shall be made automatically for the fuel temperature either based on the fuel standard density and reference tables specified in Table 2.31.X, or based on the actual measured density of the fuel and using reference tables specified in Table 2.31.X.**
  - (2) **If using a measured density, the seller shall maintain records of the density determination for one year and shall make those records available for inspection by a weights and measures official on request during normal business hours.**
  - (3) **All primary indications of net volume quantities on measuring devices and all receipts, invoices, bills of lading, and other transfer documents shall clearly and conspicuously identify net volume quantities with the unit of measure and the terms “Volume corrected to 60 °F” or “Volume corrected to 15.56 °C.”**

- (4) Unless otherwise agreed to by both the buyer and seller in writing, engine fuels and non-engine fuels sold temperature corrected shall be sold in that manner over at least a consecutive 12-month period.

**2.31.2.2. Quantity, Retail Transactions.**

- (a) Effective January 1, 2XXX, all engine fuels and non-engine fuels identified in Table 2.31.X, shall be sold, offered, or exposed for sale to retail customers either in terms of liquid volume in liters or gallons, or in terms of liquid volume automatically temperature corrected to 60 °F (15.56 °C) in liters or gallons.
- (b) Effective January 1, 2XXX, all engine fuels and non-engine fuels identified in Table 2.31.X, shall be sold, offered, or exposed for sale to retail customers in terms of liquid volume automatically temperature corrected to 60 °F (15.56 °C) in liters or gallons.
- (c) When engine fuels and non-engine fuels are sold temperature corrected to retail customers:
- (1) Correction shall be made automatically for the fuel temperature based on the fuel standard density and reference table in Table 2.31.X.
- (2) All primary indications on measuring devices and all receipts, invoices, and other transfer documents shall clearly and conspicuously identify net volume quantities with the unit of measure and the terms “Volume corrected to 60 °F” or “Volume corrected to 15.56 °C.”
- (3) If a fuel is sold temperature corrected from a measuring device at a business or fleet location, all sales of the same fuel from that business or fleet location shall be sold temperature corrected over at least a consecutive 12-month period.
- (4) All unit price advertisements shall be clearly and conspicuously marked with the term “ATC.”

<b><u>Table 2.31.X. Reference Tables and Fuel Densities for Temperature Correction</u></b>		
<b><u>Fuel</u></b>	<b><u>Reference Table for Wholesale or Retail Temperature Correction</u></b>	<b><u>Standard Fuel Density for Retail Transactions (optional density for wholesale transactions)</u></b>
<b><u>Gasoline, gasoline-oxygenate blends (3.7 mass percent oxygen, maximum), gasoline ethanol blends (10 volume percent maximum)</u></b>	<b><u>API Table 6b</u></b>	<b><u>62 API (730 kg/m<sup>3</sup>)</u></b>
<b><u>Diesel Fuel (grade 2-D), biodiesel blends (20 volume percent biodiesel, maximum)</u></b>	<b><u>API Table 6b</u></b>	<b><u>37 API (840 kg/m<sup>3</sup>)</u></b>
<b><u>Other fuels TBD</u></b>	<b><u>-</u></b>	<b><u>-</u></b>

**(Added 200X)**

## Part II. Permissive Temperature Compensation for Refined Petroleum Products and Other Fuels

(The following text describes the original proposal which was returned to the Committee after it was not adopted at the 2007 NCWM Annual Meeting)

**Sources:** The Southern Weights and Measures Association (SWMA), the Western Weights and Measures Association (WWMA), and the Central Weights and Measures Association (CWMA).

**Note:** This or similar proposals, which have been on the Committee's agenda for several years, were reviewed by each of the regional weights and measures associations. The review process resulted in the submission of several different proposals and numerous comments and suggestions for the Committee to consider. Everyone expressed concern over the scope, cost, and impact of establishing a method of sale for petroleum products which required temperature compensation. This subject was widely discussed by the NCWM at public forums dating back more than 30 years. A similar proposal was made by NEWMA as recently as 2000, but the Committee withdrew it in 2001. NEWMA noted at that time that Pennsylvania, New Hampshire, Maine, and Canada permit temperature-compensated sales of products like home heating fuel and retail gasoline. Additional historic and background information is available in previous editions of the Committee's agenda. For recent discussions on this subject, see Item 232-1 in the report of the 91<sup>st</sup> NCWM Annual Meeting (2006) on the Internet at [www.nist.gov/owm](http://www.nist.gov/owm). This information is also available from NIST WMD on a searchable DVD, NIST Special Publication 979 "Reports of the National Conference on Weights and Measures 1905 to 2007," (Spring 2008).

**Background:** At its 2007 Interim Meeting, the Committee received correspondence from consumer groups and other organizations and heard testimony from weights and measures officials, the petroleum industry (including the American Petroleum Institute (API)), consumers and others regarding temperature compensation of refined petroleum products. The Committee appreciates all of the data, discussion, and especially the high level of interest. The Committee acknowledges the media attention this item has drawn, and the members were pleased to learn that some agricultural commissioners and other policy makers, as well as some governors and state attorneys general, have expressed interest in temperature compensation.

Proponents for the item spoke for a need to improve the accuracy of measurements of petroleum products because of their cost and of the need to improve accountability. Opponents spoke to the cost of implementing temperature compensation and the potential for confusion in the marketplace. The Committee was made aware of legislation under consideration in Missouri and Texas that would establish different definitions for a gallon based on the ambient temperature in various areas of their states. The Committee was especially sensitive to concerns expressed by weights and measures inspectors about the potential cost and increased inspection time they may expend if temperature compensation is allowed in all applications, especially at the retail level.

The Committee duly considered the presentations, discussions, letters, data, media stories, comments received at public hearings and in hallways, and the proposed legislation. The NCWM has posted this information and information on the activities of its ATCSC at [www.ncwm.net](http://www.ncwm.net).

Following is a list of justifications for adopting a standard that will facilitate the implementation of an orderly yet permissive approach to allowing broader use of temperature compensation in the marketplace:

- Cost of fuel has led to increased consumer and business interest in better methods of measurement, inventory control, and accountability. By now, everyone has realized or should realize that ambient temperatures are but one factor which impacts the volume of any liquid. Thus, basing a state's temperature-compensation program on regional ambient temperatures is not a technically valid approach to addressing the issue.
- The use of dual-wall storage tanks and deliveries of fuel directly from refineries result in higher temperature product.
- Awareness and concerns over the impact of temperature on the cost of fuel has come about at the same time advances in technology such as electronics and software have made compensation possible in both new and existing measuring devices at lower costs.

- Increased consumer requests that temperature compensation be used, especially in high volume deliveries, for improved measurement accuracy.
- The dramatic growth of public interest in recent years is evidenced by articles in many newspapers and widely-read magazines such as *Scientific America*. This national conversation about energy has led to greater consumer awareness, as well as interest on the part of political leaders, of energy issues and has contributed to creating an opportunity for change.

After a thorough discussion and polling by its chairman, the Committee was unanimous that it would recommend to the NCWM the adoption of a method of sale for refined petroleum products and other fuels. This would allow industry the option of selling these products on the basis of temperature-compensated sales. The decision to submit the permissive temperature-compensated method of sale for NCWM consideration was unanimous, the representative from the CWMA supported going forward with the recommendation but did not agree with including retail sales in the scope of the regulation. The Committee ultimately decided it was in the best interest of the U.S. commercial measurement system if the NCWM adopted a standard that would provide guidance to states considering legislation in this area; thus, supporting the work of the Specifications and Tolerances Committee, the National Type Evaluation Program (NTEP), and others to develop technical requirements and test procedures for both type approval and field testing for devices equipped with temperature compensation. The Committee believed those efforts were critical to facilitating the introduction of temperature compensation to the marketplace, especially in NTEP states as the NCWM learned there were no retail motor-fuel dispensers available with Certificates of Conformance that included temperature compensation functions.

The following topics/considerations were addressed by the Committee:

**1. Temperature compensation was already legal for use in trade unless prohibited by state or local requirements.**

The Committee was aware that temperature compensation was already required or permitted in a number of states for vehicle-tank meters, liquefied petroleum gas, and wholesale deliveries to retailers, and that it had been used in the marketplace in these applications for decades. At the WWMA Annual Meeting, the State of California reported that for transactions involving 5000 gal or more, purchasers may request temperature compensation; Idaho said that for transactions involving 8000 gal or more, the purchaser had an option to buy, on a yearly basis, temperature-compensated product and that all terminal transactions were temperature compensated; Arizona responded that any transactions involving more than 5000 gal must be compensated for temperature; and currently the State of Hawaii was the only jurisdiction that has taken some action to account for temperature variations in retail sales. The Committee heard enough supportive comments from a broad base of weights and measures directors, inspectors, and metrologists to recognize that temperature compensation may find broad acceptance in the marketplace, especially once the potential benefits it offers were realized and implementation costs fall.

The Committee also believed that unless prohibited by state law, temperature compensation at retail dispensers was already legal in most states. Additionally, the Committee believed it would be difficult to argue against a measurement practice that could only improve the accuracy and reproducibility of a volumetric measurement. The Committee position was that legal metrology must not stand in the way of the marketplace striving to change the way fuels and other products are marketed and sold.

**2. Under a permissive approach consumers and businesses will decide where and when to implement temperature compensation.**

The Committee was convinced the marketplace will best determine where and when the benefits from temperature compensation should be implemented to improve accuracy. The Committee recommended the adoption of a method of sale that would allow temperature compensation to be used in sales of petroleum products on a permissive (voluntary) basis, allowing the marketplace (e.g., industry, consumers and other government agencies) to decide if and when it was appropriate to use temperature compensation in specific commercial applications (e.g., sales at truck stops). This recommendation was proposed solely for the purpose of ensuring the delivery of an accurate volume of petroleum at a specific reference temperature. It was not the intent of the Committee to attempt to define a standard energy content of a liter or gallon of gasoline or other engine fuel with this recommendation.

**3. Temperature compensation would be permissive, but controlled.**

Although the Committee's recommendation allowed for permissive use of temperature compensation, it included mandatory provisions requiring compensation be made by automatic means to ensure the measured quantity was accurately determined. It also defined a temperature-compensated volume for both liters and gallons, requiring the posting of information on dispensers, street signs, and on documents to ensure full disclosure and fair competition. Additionally, it required a business location to have all of the devices operating on temperature compensation on a year-round basis unless a written waiver was granted by the Director.

**4. The basis of the Committee's recommendation was the proposal from the WWMA.**

The Committee's recommendation was based on the proposal submitted by the WWMA, which was developed at its 2006 Annual Meeting in Salt Lake City, Utah. The Committee made several amendments to the proposal, but found it represented a well-reasoned foundation for the recommendation presented below. The CWMA L&R Committee supported the WWMA's proposal and supported submitting it to the NCWM for a vote. The CWMA agreed with the WWMA that temperature compensation is the most equitable method of sale, which is currently utilized at every step of distribution except for retail sales. Additionally, the CWMA believed the proposal should not be restricted only to petroleum products, but should also include alternative fuels such as E85, biodiesel and biodiesel blends. The Committee's recommendation incorporated some of the CWMA's suggestions and included additional requirements to address many of the concerns raised at the 2007 NCWM Interim Meeting open hearings and discussions. For the purpose of this recommendation, the Committee used the definition for "refined petroleum products" as presented in HB 130 *Uniform Engine Fuels, Petroleum Products, and Automotive Lubricants Inspection Law* which reads, "products obtained from distilling and processing of petroleum (crude oil), unfinished oils, recycled oils, natural gas liquids, refinery blend stocks, and other miscellaneous hydrocarbon compounds," with the understanding that its intent was that the requirements would apply when petroleum was blended with other products such as ethanol.

**5. Full disclosure will allow informed consumers to make value comparisons.**

The Committee believes that consumers, when educated through marketing and outreach efforts, will accept new technology and measurement practices. When provided with sound information, consumers will gain confidence that government oversight will prevent deceptive practices. The Committee believes that full disclosure provisions of the method of sale will reduce both unfair competition and consumer confusion. If, for example, a truck stop offers temperature-compensated sales of diesel fuel through high-speed dispensers for truckers, the road signs with price per unit of volume (e.g., gallon or liter) and dispensers must include a declaration that the volume is sold on the basis of temperature compensation. If the price per gallon is higher or lower than the usual price per gallon, consumers will be informed that the volume was compensated to a reference temperature. Several people expressed concern over marketplace confusion if diesel fuel is sold on the basis of both compensated and uncompensated volume. It is incorrect to say that there would be two methods of sale for the same product under this recommendation just as it is inaccurate to say that some consumers will not receive a "full" gallon if temperature compensation is used as some opponents to this method of sale have claimed. The reality is that consumers will be able to compare price per gallon between stations and they will receive a "full" gallon as defined under the Method of Sale of Commodities Regulation. While confusion is possible with any method of sale, the Committee was not deterred by that possibility. If confusion occurs, the proper response is to educate consumers and address any changes identified from the confusion through further refinement of the method of sale. In this application, full disclosure will inform consumers that one product is sold on the basis of temperature compensation and one is not. When consumers are educated, they can make sound value comparisons between these choices just as they already make decisions when choosing between different brand name products, octane ratings, additive offerings, and types of fuels. Business and industry is also well equipped and very experienced in educating its customers, whenever they introduce new products or services to the marketplace. Should they decide to use the method of sale, they should be sure to introduce it using an informative marketing effort.

The Committee was urged to clarify that there may be situations in which there is a valid contract where the price is based on the fuel being sold on the basis of uncompensated measurement. The Committee agreed with the comment that if a purchaser operating under such a contract fills up at a location where the dispensers are temperature



compensated, the contract should prevail in those transactions. Similarly, the Committee heard from the American Petroleum Institute (API) that it should permit either uncompensated or compensated methods of sale at loading-rack meters when such sales are under contract. The Committee believes its proposal will not interfere with the contracts or understandings that API described.

## **6. Costs**

The Committee heard from some users that the lack of temperature compensation was costing them great sums of money while industry representatives said the cost of equipment and installation will cost industry and, ultimately, consumers even larger amounts of money. The cost of any NCWM action is a concern to the Committee, which must defend its actions on both sides of any issue. However, it is very difficult to give each side everything it wants in any recommendation. While the Committee was concerned about cost, it was skeptical of the economic claims from both sides in this debate. For example, at the 2007 Interim Meeting one estimate of the cost of implementing temperature compensation dropped nearly \$2 billion dollars once industry learned that an alternative technology was available in the marketplace.

That is but one illustration of the weaknesses the Committee saw in cost or damage claims over the years. It dates back to its work in the 1990s on the price verification procedures where some groups claimed that supermarkets were overcharging consumers billions of dollars a year. The Committee never saw data that supported such claims; yet the damage values received wide notice in the media. Some members of the NCWM may remember the claims made during Congressional consideration of the Metric Conversion Act of 1975 that changing to the metric system would cost billions of dollars. In reality those high costs never materialized, which was confirmed through several reliable studies. One reason Congress made conversion to the metric system voluntary was to allow industry to make changes as part of their normal equipment replacement cycle. The automotive industry, for instance, found it cost effective to make the change to metric units when purchasing replacement equipment. Advancements in technology also made conversions easier or allowed dual-unit displays on equipment as standard features. These factors were key contributors in reducing costs.

Each state Director in the NCWM determines whether or not to incorporate what is adopted by the NCWM into his state law or regulations, not the Committee. Even states that adopt the Method of Sale of Commodities Regulation by reference or citation can take action to exclude a specific section of a uniform regulation that conflicts with other requirements or policies. As for taking time for additional study, the NCWM record on consideration of the issue of temperature compensation dates back to the mid-1970s and has arisen for consideration every few years since then. The Committee was aware of the history, the issues, the various points of view, and the potential costs of temperature compensation, and believed it was time for the NCWM to move forward on temperature compensation by establishing standards by which this method of sale can be brought into the marketplace on a voluntary, yet controlled, basis. The Committee also heard that no action should be taken pending further studies. The Committee was wary of calls for no action pending another study or action by Congress.

As one speaker alluded to in his presentation, the marketplace is to some degree “intelligent” in that it helps address many factors through its price-setting function and can generally be trusted to balance costs and prices as well as justify investment in new technology and marketing practices if there is a need, demand, or opportunity. A voluntary approach will allow early adopters to develop experience and pull advances in technology into the equipment market while competition and other factors will reduce costs even further if the method of sale is broadly adopted. The Committee believed a permissive approach to temperature compensation turned the choice over to the marketplace where, if consumer demand was sufficient, sellers would make a business decision to invest in the technology and marketing according to the new method of sale when the benefits offset costs.

## **7. Limiting the option of temperature compensation to specific applications**

The Committee received suggestions that temperature compensation be limited to certain applications or not allowed in retail sales, but it did not hear sufficient justification for taking such positions. Temperature compensation is not new to the commercial measurement system. It is widely used in wholesale transactions in many jurisdictions, and consumers in many states have purchased LPG and oil for heating and other uses for decades on the basis of temperature-compensated sales. No information was presented to the Committee that its use in those applications has been anything but successful. The Committee recognizes that verifying devices with temperature compensation

may require additional inspection time and require weights and measures officials to purchase thermometers or other equipment for testing. However, those factors are not sufficient justification to prohibit the marketplace from implementing this method of sale. If a jurisdiction adopts this method of sale and a business decides to use temperature compensation, the weights and measures agency would need to obtain funding to implement appropriate testing procedures to verify devices. However, the Committee would expect that innovation, risk-based testing, and random sampling techniques, as well as technology, would lessen the time required to conduct additional tests just as those factors have reduced the burden of testing many weighing and measuring instruments in the past.

#### **8. Permissive vs. Mandatory Implementation**

The Committee heard from the regional associations and others that temperature-compensated sales should be implemented on a permissive basis. The Committee opposed the inclusion of a future mandatory date at this time. The Committee believed temperature-compensated sales should be market driven and that suppliers will conduct sales on a compensated basis when consumers demand it and should not be required to do so before then. The Committee, based on the comments of many jurisdictions, believed the imposition of a mandatory requirement was too burdensome on the industry, requiring upgrades and possibly the replacement of many meters without adequate justification.

The Committee agreed that a mandatory requirement would not be justified at this point in time. The Committee felt it was important to get some form of regulation regarding temperature-compensated sales of petroleum into HB 130 and thought as many barriers as possible should be removed in order to achieve that goal. Although the Committee's recommendation is a permissive requirement for temperature-compensated sales, the Committee was willing to consider establishing future mandatory dates if a justified need was demonstrated after this permissive regulation was implemented and used for a period of time.

#### **9. Comments Reviewed by the Committee at the 2007 Annual Meeting**

- a. The Committee noted if the temperature compensation proposal was adopted at the 2007 Annual Meeting, it would go into effect January 1, 2008, in the 18 jurisdictions that indicated they automatically adopt that regulation by reference or citation (see 2008 Edition of NIST HB 130, "II Uniformity of Laws and Regulations" (page 9) for a list of those states). The Committee recognized that if the recommendation was adopted in July 2007, some jurisdictions might want to delay its implementation or exempt that particular section from being automatically adopted. Since typically, rulemaking takes longer than six months to complete, the Committee debated whether or not it should include a delayed effective date of July 1, 2009, for this regulation but took no action on this issue.
- b. The Committee discussed the subject of unscrupulous retailers artificially heating fuels and that this deceptive practice has occurred from time to time. The State of Arizona actually forbids the practice; however, the Committee did not address that issue in the following recommendation. The Committee considered if a prohibition on the artificial heating of fuels for the purpose of increasing volume at the time of sale should be added to the recommendation but no action was taken on this issue.
- c. The Committee asked to receive comments on whether or not the recommendation should allow the state director to grant (and, when justified, revoke) written waivers to some provisions if sufficient justification was provided by the business owner. The Committee discussed whether or not the requirement that all devices that dispense product at a single location might result in a hardship for some retailers or difficulties in implementing the new method of sale for specific customers (e.g., over-the-road truckers). For example, if a station decided to sell gasoline and diesel fuel on a temperature-compensated basis but also had a dispenser for K-1 Kerosene, from which limited sales were made, a waiver from the temperature-compensation requirement on all dispensers could be justified. Likewise, if a chain of truck stops decided to sell diesel fuel on a temperature-compensated basis through its high-output dispensers to truckers (e.g., its prime customers), but did not want to implement temperature-compensated sales through its gasoline dispensers, a waiver could also be justified. The purpose of the requirement that all devices at a single location be temperature compensated or not was to prevent a retailer from selling through the compensated or uncompensated dispensers when it benefited the seller. The Committee agreed flexibility

was warranted and could make acceptance of the method of sale easier to implement but took no action on this issue.

**Committee Recommendation:** Amend the Method of Sale of Commodities Regulation in HB 130 by adding a new Section 2.30. Refined Petroleum Products:

**2.30. Refined Petroleum Products - Permissive Temperature Compensation.**

**2.30.1. Where not in conflict with other statutes or regulations, these products may be sold on the basis of temperature-compensated volume.**

**2.30.2. When products are sold on the basis of temperature-compensated volume:**

- (a) **All sales shall be in terms of liters or gallons with the delivered volume adjusted to 15 °C or gallons with the delivered volume adjusted to 60 °F;**
- (b) **Temperature compensation must be accomplished through automatic means.**

**2.30.3. Full Disclosure Requirements.**

**2.30.3.1. The primary indicating elements of measuring devices, recording elements, and all recorded or display representations (e.g., receipts, invoices, bills of lading, etc.) shall be clearly and conspicuously marked to show that the product was delivered on the basis of temperature-compensated volume;**

**2.30.3.2. When a product is offered for sale on the basis of temperature-compensated volume, street signs or other advertisements of its unit price must clearly and conspicuously indicate that the volume is temperature compensated.**

**2.30.4. Other Provisions.**

**2.30.4.1. At a business location all sales on a temperature-compensated basis shall be made continuously and for a period of not less than 12 months (e.g., a person may not engage the automatic temperature compensator on a device only during certain times of the year to prevent the person from taking advantage of temperature compensation).**

**2.30.4.2. At a business location which offers products for sale on the basis of a temperature-compensated volume, all measuring devices shall dispense on the basis of temperature-compensated volume (e.g., a person must not operate some devices at a location with automatic temperature compensators and others without compensators to prevent them from taking advantage of temperature variations).**

Annotations:

1. **As defined in Handbook 130 Engine Fuels, Petroleum Products, and Automotive Lubricants Inspection Law, refined petroleum products are products obtained from distilling and processing of petroleum (crude oil), unfinished oils, recycled oils, natural gas liquids, refinery blend stocks, and other miscellaneous hydrocarbon compounds as well as biofuels such as E85 and biodiesel at various blends.**
2. **A temperature-compensated liter is defined as having a reference temperature of 15 °C and a temperature-compensated gallon is defined as 231 in<sup>3</sup> at a reference temperature of 60 °F;**
3. **When a product is sold on the basis of a temperature-compensated volume, it is typically called “net” or “net volume,” whereas the volume before compensation is called the “gross” or “gross volume.”**

4. The metric units are shown solely for the purpose of showing metric equivalents in this uniform regulation in this NIST handbook. There is no requirement that dual units be shown in any full disclosure information required under this section.
5. Temperature Compensation may be abbreviated (e.g., “Temp Comp.” or “Compensated to 60 °F”) in the interest of space as long as its meaning is clear.
6. The seller is not prohibited from providing both gross and net gallons on receipts, invoices, bills of lading or other documentation as long as it is not misleading or deceptive.
7. A “business location” means a single outlet and should not be interpreted to mean all of the outlets or locations that a business or company operates in a jurisdiction.

## 237 ENGINE FUELS, PETROLEUM PRODUCTS AND AUTOMOTIVE LUBRICANTS INSPECTION REGULATION

### 237-1 Revise Section 2.1. Gasoline and Gasoline-Oxygenate Blends

**Source:** Chairman, Fuels and Lubricants Subcommittee/NIST Technical Advisor

**Background:** The proposed changes for the current Section 2.1. of the regulation are based on the belief by some members of the Subcommittee that there is ambiguity in the current regulation and a lack of acceptance of the current requirements by some states. Some of the members of the Subcommittee believe the uniform regulation should include a set of enforceable limits that provides consumers’ protection yet builds a bridge to the future predominance of blend stock use.

1. *Ambiguity in the Current Regulation* – Discussions between regulators and industry, both during Fuel and Lubricants Subcommittee meetings and during the course of performing regulatory functions within the jurisdictions, have revealed that the current regulation has varying interpretations. The current regulation provides three options for blending.
  - a. Option 1 (2.1.1.1. *The base gasoline used in such blends shall meet the requirements of ASTM D4814*) is generally interpreted to mean that if the base gasoline meets the ASTM requirements, then the blend is exempt from all ASTM volatility control parameters when splash blending occurs downstream with a finished gasoline. Others suggest that, based on the wording, when blending under these conditions, the blend is exempt from any ASTM standards. Still others suggest that the section fails to clearly exempt the blend from any standards; therefore, they do not feel that this section provides the final blend with any relaxation from the ASTM standards.
  - b. Option 2 (2.1.1.2. *The blend shall meet the requirements of ASTM D4814*) is unclear to most readers that were not present when the rule was originally drafted. Obviously, a spark ignition engine fuel can certainly meet the ASTM standard and be compliant without question. In actuality, the rule was written to *require* that blends constructed at a refinery using ethanol as a blend stream component meet the ASTM standard.
  - c. Option 3 (2.1.1.3. *The base gasoline used in such blends shall meet all the requirements of ASTM D4814 except distillation, and the blend shall meet the distillation requirements of the ASTM specification*) is also unclear to many. This section was constructed by the original drafters of the rule to apply to blending with Blend Stock for Oxygenate Blending (BOBs). The original intent was based upon the fact that the blender knows the effect that the ethanol will have on the fuel, and the BOB should be manufactured with refinery stream components that will result in an ASTM-compliant fuel after the addition of the ethanol. Again, many readers do not understand this option and find that it is hard to distinguish from Option 2. The proposed revision combines Option 2 and Option 3 into a clear and concise statement.

2. *Lack of Acceptance by States* – The current model regulation has proven unacceptable to many states. According to a recent survey conducted, eleven states have adopted Section 2.1. into regulation with approximately five other states that have adopted similar versions of this section. Seven states have not adopted any **motor engine** fuel quality standards. The remaining twenty-seven states have not adopted this section of the model regulation. This section has been available for states to consider since 1995. Thirteen years later, there remains considerable resistance by states to adopt the current language.
3. *Sets an Enforceable Limit that Provides Minimum Consumer Protection and Builds a Bridge to the Future Predominance of Blend Stock Use* – The proposed revision provides state regulators with limits that will provide at least minimal protection to consumers when ethanol is blended with finished gasoline and removes the ambiguity that was left in the original wording. Major oil companies have asked states for a compromise standard that can be reasonably met when blending finished gasoline with ethanol. This is needed now in many markets because ethanol blends are not established, and it is not practical for many reasons to ship blend stock and finished gasoline into those markets. The proposed revisions provide that compromise while maintaining the ability for regulators to react in the rare event that an abnormal base fuel is imported or entered into a marketplace and the gasoline blended with ethanol results in a blend that possesses unacceptable volatility characteristics that would result in vehicle operability issues. The proposed revision seeks to build a bridge to the time when ethanol blends may become the default fuel in a market place. At such time, it is likely that refiners will provide BOBs to those markets, and the resulting fuel would then be expected to meet ASTM standards. Finally, changes in the ASTM standards since the original regulation was passed also support a change in the model regulation. ASTM now allows a minimum T50 Distillation point of 150 °F for gasoline in volatility Classes D and E. It is generally accepted that if ethanol were blended with a base gasoline with a T50 of 150 °F, the final blend would very possibly be problematic.

**Recommendation:** Amend Section 2.1. of the Uniform Engine Fuel, Petroleum Products, and Automotive Lubricants Regulation by replacing the current text with the following:

**2.1. Gasoline and Gasoline-Oxygenate Blends. – (as defined in this regulation) shall meet the most recent version of ASTM D4814 “Standard Specification for Automotive Spark Ignition Engine Fuel” except for ethanol blends as provided below and be consistent with state and federal laws and regulations.**

**2.1.1. When finished gasoline is used as the base gasoline for blending, the base gasoline used in such blends shall meet the requirements of ASTM D4814 and the ethanol shall meet the requirements of ASTM D4806. The finished blend shall meet ASTM D4814 with the following permissible exceptions:**

**2.1.1.1. The distillation minimum temperature at the 50 volume percent evaporated point shall not be less than 66 °C (150 °F).**

**2.1.1.2. The Minimum Temperature for a Vapor/Liquid Ratio of 20 shall be as follows for the applicable vapor lock protection class:**

**Class 1 shall be 51.5 °C (125 °F)**

**Class 2 shall be 49.0 °C (120 °F)**

**Class 3 shall be 45.0 °C (113 °F)**

**Class 4 shall be 41.5 °C (107 °F)**

**Class 5 shall be 37.0 °C (99 °F)**

**Class 6 shall be 35.0 °C (95 °F)**

**2.1.1.3. The maximum vapor pressure shall not exceed the D4814 limits by more than 1.0 psi for:**

**(a) Only 10 % ethanol by volume blends (9 % minimum to 10 % maximum) from June 1 through September 15.**

**(b) All blends of up to 10 % ethanol by volume from September 16 through May 31.**

**2.1.2. When blend stock for ethanol blending is used, or when an ethanol blend is created with various refinery streams, the final blend shall meet the requirements of D4814 except that the vapor pressure requirements of 2.1.1.3. are permissible.**

**2.1.3. Blends of gasoline and ethanol shall contain no more than 10 volume percent ethanol.**

**Discussion:** The Fuel and Lubricants Subcommittee had met at the 2007 Interim Meeting in Jacksonville, Florida, to undertake a review of a number of significant issues related to fuel standards. One of their projects was to review and update the Uniform Engine Fuels, Petroleum Products, and Automotive Lubricants Regulation in NIST HB 130 and submit a draft revision of the regulation for consideration by the Committee at the 2008 Interim Meeting.

The Subcommittee met at the 2007 NCWM Annual Meeting and continued its work on a number of items including a substantive revision of the fuel ethanol labeling requirement that the NCWM adopted at that meeting. The Subcommittee met again on December 5, 2007, at the ASTM International (ASTM) meeting in Phoenix, Arizona, and considered proposed amendments to Section 2.1. as shown below but a consensus agreement could not be reached at that meeting. The Subcommittee held a conference call on January 15, 2008, to complete its work on the draft revisions of the law and regulation and to consider the proposed revisions to Section 2.1. Again, after extensive deliberation a consensus agreement on the proposed revisions to Section 2.1. could not be obtained.

At the 2008 Interim Meeting comments were made during the open hearings where stakeholders voiced their concerns that this item is not ready to move forward. Stakeholders would like this item to go back to the Fuels and Lubricants Subcommittee for additional work on the language. The L&R Committee voted to make this item Informational and requested that the Fuel and Lubricants Subcommittee reconsider this issue. If the Subcommittee can resolve its differences on the proposal, it can submit amendments to this section as part of the revision to the Engine Fuels and Automotive Lubricants regulation under Item 237-1 above (refer to L&R Appendix B from the report of the 93<sup>rd</sup> NCWM Annual Meeting (2008) for written comments received on this item).

This item was sent to the full Laws and Regulations Committee for consideration at the 2008 Interim Meeting on the recommendation of NIST's Technical Advisor and with the agreement of the Subcommittee Chairman. The section must be reviewed by the NCWM because the current language may be in conflict with federal fuel waiver provisions.

At the 2008 Annual Meeting the Committee received one written comment (refer to L&R Appendix B from the report of the 93<sup>rd</sup> NCWM Annual Meeting (2008) for written the comment received on this item). This section will continue to remain Informational until additional information is received from the Fuels and Lubricants Subcommittee.

At the CWMA 2008 Interim Meeting it was commented that the proposal needs clarification to identify that this regulation applies to blends containing up to 10 volume percent ethanol. They voiced this concern due to the emerging use of ethanol blends between 10 % and 70 %. The CWMA L&R Committee recommends this item remain Informational until the FALS reaches consensus.

At the 2008 WWMA and SWMA Annual and the NEWMA Interim Meeting the Committees recommend that this item remain Informational until work is received from FALS.

Ron Hayes, Chairperson FALS, can be contacted at (573) 751-2922 or at ron.hayes@mda.mo.gov.

## 260 NIST HANDBOOK 133

### 260-1 Determining Net Weight Compliance for Meat and Poultry Products – 9 CFR Parts 317, 381, and 442

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

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

Currently the NIST WMD Technical Advisors are updating NIST HB 133 Section 2.3. “Basic Test Procedure” to be consistent with 9 CFR parts, 317, 381, and 442. This will mean removing any reference to the “wet tare” method for determining net weight of USDA restricted products, since FSIS considers free-flowing liquid to be part of the product.

## 270 OTHER ITEMS – DEVELOPING ITEMS

### INTRODUCTION

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

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

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

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

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

**Background:** A member of the petroleum industry believed the test and associated tolerances for lubricity on premium diesel specified in Section 2.2.1.(d) were inconsistent with that for regular diesel. Effective January 1, 2005, the test tolerance for regular diesel lubricity was the ASTM D6079 reproducibility of 136  $\mu\text{m}$  (see ASTM D975-04b). The NCWM chose to accept the ASTM reproducibility limits for all diesel (D975) and gasoline (D4814) properties (see Section 7.2.2. Reproducibility), but chose a different reproducibility limit for premium diesel lubricity without providing any explanation as to why the ASTM reproducibility limit was insufficient. If the NCWM intended to impose a stricter lubricity requirement for premium diesel, it should have designated a tighter specification for this property, not a different test tolerance (e.g., for regular and premium gasoline, premium has a different octane specification than for regular, but the test tolerance is the same). ASTM reproducibility limits were,

by definition, based on establishing a 95 % probability that product that should pass, will pass. Applying an average test as specified in Section 2.2.1.(d) reduced that probability to 80 %.

The Committee received comments from several members of the Premium Diesel Work Group (WG) who did not support the item as presented by the petroleum industry member. WG members believed the process that led to the current definition was very thorough and complete and the premium diesel lubricity requirements were established with a full understanding of their implications. The WG members felt that knowledgeable individuals provided input to the process, which led to the consensus position contained in the current regulation. The work being done by the WG was reported at meetings of ASTM Subcommittee E-2 every six months. The current regulation has been endorsed by the American Petroleum Institute, the Engine Manufacturer's Association, and the NCWM.

Prior to the current requirement being adopted, the ASTM Lubricity Task Force conducted a great deal of research on this topic. Based on their research, the ASTM Lubricity Task Force concluded that a limit of 520  $\mu\text{m}$  would meet the requirements of equipment in the field. Since the passage of this model regulation, ASTM included a lubricity requirement for No. 1 and No. 2 diesel fuel effective January 1, 2005. The ASTM requirement is also 520  $\mu\text{m}$ .

WG members reported that when this regulation was written, fuels with adequate lubricity provided a functional benefit to the end user. The WG agreed with the ASTM Lubricity Task Force that 520  $\mu\text{m}$  was the correct limit to set for premium diesel. However, the WG's review process also indicated increased pump wear for fuels with High-Frequency Reciprocating Rig (HFRR) values greater than 560  $\mu\text{m}$ . The current reproducibility value of the HFRR test method would have placed enforcement well beyond the 560  $\mu\text{m}$  level, essentially allowing fuels with little lubricity protection to be sold as "Premium." The WG believed they could not recommend a premium fuel standard that would permit excessive pump wear. Using the statistical tools provided in ASTM D3244, the WG evaluated an enforcement limit of 560  $\mu\text{m}$ . The statistical tools indicated that a single laboratory reporting the assigned test value would have an enforcement limit of approximately 80 % probability of acceptance, while the average of two separate laboratories reporting the assigned test value would have an enforcement limit of approximately 90 % probability of acceptance. It was agreed that for a premium fuel the average of two test results was the best approach given the current test methods and precision available. Therefore, if a test exceeded 560  $\mu\text{m}$ , then a second test must be run. The average of the two tests must exceed 560  $\mu\text{m}$  before a violation would occur. At the 2005 WWMA meeting, the Fuels and Lubricants Subcommittee agreed the proposal was the best approach at that time, and lacking new information, it continues to hold that position.

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

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

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

At the 2008 Interim Meeting the Committee carried this item over as a Developing item. This proposal was sent to the Fuel and Lubricants Subcommittee (FALS) for its recommendation on how to proceed with the issue. FALS suggested this item remain on the agenda as a Developmental item.

At the 2008 Annual Meeting there were no changes or recommendations received from FALS. This item will remain Developmental and will await further development from FALS.

At the CWMA 2008 Interim Meeting the Committee requested that this item remain Informational pending release of the FALS recommendation, Coordinating Research council study and the ASTM Lubricity Test Method Task



Force reports. At the NEWMA, WWMA and SWMA 2008 Annual Meetings the Committees recommended that this item remain Informational from FALS.

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

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

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

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

(Amended 2003)

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

## **270-2 Amend Handbook 133 Section 2.3. Moisture Allowances to Provide Clearer Guidance**


(See Item 270-2 in the Report of the 93<sup>rd</sup> Annual NCWM Meeting in 2008)

This item was added to the agenda of the Committee’s Work Group (WG) on Moisture Loss (refer to Table B Appendix C) following the 2008 NCWM Interim Meeting. Also, see Item 270-3 for an explanation of the WG’s role and responsibilities and discussion on this item.

## **270-3 Laws and Regulations Committee Work Group (WG) on Moisture Loss**

(See Item 270-3 in the Report of the 93<sup>rd</sup> Annual NCWM Meeting in 2008)

**Background:** An issue about NIST Handbook 133 raised during the WG discussion was that the established moisture allowances listed in the handbook are not shown in one location in the text. The following table was prepared by NIST and may be considered for possible future inclusion in the handbook at the next WG meeting. The new Table 1.3. Moisture Allowances would bring all of the Moisture Allowance information together in one location in HB 133. A sample of a USDA Seal of Inspection was provided because NIST frequently receives inquiries from field officials asking what the USDA seal looks like.

<b>Table 1.3. Moisture Allowances</b>		
<b>If you are verifying the net weight of packages of:</b>	<b>The Moisture Allowance is:</b>	<b>Notes</b>
Flour	3 %	
Dry Pet Food	3 %	Dry pet food means all extruded dog and cat foods and baked treats packaged in Kraft paper bags and/or cardboard boxes with a moisture content of 13 % or less at time of pack.
Borax	See Section 2.4.	
<b>Wet Tare Only</b>		
<b>If you are using Wet Tare in verifying the net weight of packages of one of the products listed below that bear a USDA seal of inspection:</b>	<b>The Moisture Allowance is:</b>	 <p>One example of a USDA Seal of Inspection. Seals may vary by product.</p>
Fresh poultry	3 %	Fresh poultry is defined as poultry at a temperature of 3 °C (26 °F) that yields or gives when pushed with the thumb.
Franks or hotdogs	2.5 %	
Bacon, Fresh sausage, and Luncheon meats	0 %	If there is no free-flowing liquid or absorbent materials in contact with the product and the package is clean of clinging material.

**Discussion:** At the 2007 NCWM Interim Meeting, the Committee created a WG to undertake a review of a number of moisture loss and other issues relating to NIST Handbook 133 “Checking the Net Contents of Packaged Goods.” NIST recommended the NCWM L&R Committee retain responsibility for this project instead of creating a task force because that would entail additional travel and meeting expenses for all parties. The Board of Directors and the Committee agreed with that proposal because a large portion of this project can be accomplished using e-mail and teleconferences to reduce costs. The Committee also noted the number of items on their agenda has declined making time available during the Committee’s work sessions to address this project. If additional meetings are needed, they will be scheduled to coincide with the regional meetings to reduce travel and other costs. Another justification for this approach was that it allowed regional representatives on the Committee to develop a greater understanding of moisture loss and enabled them to better explain the subject matter to their constituents. Participation in this effort is open to all interested parties.

At the 2007 Annual Meeting the first WG meeting took place on Sunday, July 8, 2007, following the Committee’s regular work session. The first major subject of discussion was the determination of tare using gel-soaker pads. The participants agreed that information on the appropriate test procedures for using gel soaker pads should be distributed to weights and measures officials and industry following the NCWM Annual Meeting. NIST agreed to publish an article in the upcoming edition of WMD’s newsletter. A discussion of that issue is contained in Item 1 of Appendix C attached to this report. The group developed a formal work plan and addressed additional items listed in Appendix C as time allowed.

The Moisture Loss Work Group (WG) met at the 2008 Interim Meeting. There was limited time for discussion, so it was decided that no changes to NIST Handbook 133 would be recommended at this time. There were 25 representatives from state and local weights and measures programs, packagers, and other stakeholders in attendance. This was the first formal meeting of the WG, there was an extensive discussion of the goals, objectives, and effort, and a review of the history of the NCWM’s efforts to address moisture loss issues. After a lengthy discussion, it was agreed that there is a need to develop informational materials to explain the average and individual package requirements and moisture allowances in NIST HB 133 so that handbook users can understand how to

effectively apply the statistical allowances and moisture loss adjustments when conducting package inspections. Also identified was the need to provide an explanation of federal net quantity of contents requirements. It was agreed that NIST WMD would draft a set of graphics to describe how the Sample Error Limit (SEL), Moisture Allowance, and other corrections are determined in NIST Handbook 133. NIST WMD will also prepare a compilation of laws and terms related to net quantity of contents verification for use by the WG in providing guidance to users of NIST HB 133 on allowing reasonable variations.

At the 2008 Annual Meeting the Moisture Loss Work Group met to review an animated PowerPoint presentation provided by Kenneth Butcher. This presentation explained the statistical requirement and moisture allowances of NIST HB 133. The WG was able to give input on the presentation. NIST will make revisions to the current presentation. Once finalized, this presentation will be posted on the NCWM and NIST WMD websites, for use in training and/or self study.

This WG will also develop a draft guideline on small lot testing for use by inspectors and administrators. The WG will also develop guidelines for determining moisture loss allowances for products that are not listed in HB 133. The WG felt this additional information would be resourceful.

At the CWMA 2008 Interim Meeting held in October a comment was made that a critical element which needs to be developed is a guide stating what data is needed to demonstrate the need for moisture allowance to enable companies to collect the pertinent information for moisture allowance.

At the WWMA 2008 Annual Meeting the Committee agrees that additional work does need to be done and would like to see progress made at a quicker pace. The Committee would like to see any information that was developed out of recommendations from the July Annual Meeting. It was recommended that if costs are prohibiting additional meetings, meetings could be held on the web or they could consider using funding from the NCWM or regionals. The NIST Technical Advisor informed the Committee that due to funding and limits on most participants the Committee will continue to hold WG meeting at the Interim and Annual Meetings.

At the SWMA 2008 Annual Meeting the Committee agrees that this item remain Developmental as work develops out of NIST WMD.

At the NEWMA Interim Meeting in October 2008 a member asked whether the WG has explored the viability of expanding the categories of products affected by moisture loss. NEWMA recommends that this item remain a Developing item.

To participate in this WG, contact Lisa Warfield at (301) 975-3308, or by e-mail: [lisa.warfield@nist.gov](mailto:lisa.warfield@nist.gov) or Ken Butcher at (301) 975-4859, e-mail: [kbutcher@nist.gov](mailto:kbutcher@nist.gov).

#### **270-4 Fuels and Lubricants Subcommittee (FALS)**

**Background:** The Subcommittee had previously met on January 24, 2007, at the 2007 NCWM Interim Meeting to undertake a review of a number of significant issues related to fuel standards. Their first project was to undertake a major review and update of the Uniform Engine Fuels, Petroleum Products, and Automotive Lubricants Regulation in HB 130. The Subcommittee also met at the 2007 Annual Meeting and continued its work on a number of items in addition to preparing a major revision of the Fuel Ethanol Labeling requirement in Item 232-2.

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

At the ASTM International meetings on December 5, 2007, in Phoenix, Arizona, the Subcommittee met to finalize its work on a number of projects that included a revision of the Uniform Engine Fuels Law and Regulation. A teleconference was held immediately prior to the 2008 Interim Meeting.

**Discussion:** At the 2008 NCWM Interim Meeting the Committee changed the name of the Petroleum Subcommittee to the Fuels and Lubricants Subcommittee (FALS). At the 2008 Interim Meeting the Subcommittee

prepared and submitted a major revision of this regulation for consideration by the Committee at the 2008 Interim Meeting. The Subcommittee also conducted a review of the Engine Fuels, Petroleum Products, and Automotive Lubricants Law and will prepare suggested changes for this Uniform Law as well (see Item 223-1). This item was reviewed at the 2008 Annual Meeting; this item continues to remain Developmental.

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

#### **270-5 Pelletized Ice Cream**

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

The NIST Weights and Measures Division submitted to the Committee detailed minutes pertaining to the June 27, 2008, meeting held at NIST in Gaithersburg, Maryland, concerning issues and concerns with the pelletized ice cream product. The minutes (refer to Table B Appendix E) provide great detail of the current issue, background information, representatives and manufacturers, method of sale, and test method procedure.

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

All regions are in agreement that this item remains Developmental until further information is received from FDA.

To participate in the work on pelletized ice cream, contact Lisa Warfield, at lisa.warfield@nist.gov or (301) 975-3308, or Cary P. Frye, International Dairy Foods Association at cfrye@idfa.org or (202) 220-3543.

#### **270-6 Amend Interpretations and Guidelines Section 2.2.13. and 1.5.1.**

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

**Proposal:** Amend the Interpretations and Guideline Section of the 2009 Edition of NIST HB 130 by replacing the current contents of Section 2.2.13. Declaration of Identity: Consumer Package (UPLR) and 1.5.1. In Combination with other Foods (UMSCR) with the URL for the USDA's "Food Standards and Labeling Policy Book" which is available online at the following Uniform Resource Locators (URL). The information in Section 2.2.13. Declaration of Identity: Consumer Package (UPLR) and 1.5.1. In Combination with Other Foods (UMSCR) (HB 130-2009) is incomplete and out of date. Current and more comprehensive information on the labeling of packages of meat and poultry products is now available on the USDA websites.

Food Standards and Labeling Policy Book URL is:  
[www.fsis.usda.gov/OPPDE/larc/Policies/Labeling\\_Policy\\_Book\\_082005.pdf](http://www.fsis.usda.gov/OPPDE/larc/Policies/Labeling_Policy_Book_082005.pdf)

A Guide to Federal Food Labeling Requirements for Meat and Poultry Products (2007) URL is:  
[www.fsis.usda.gov/PDF/Labeling\\_Requirements\\_Guide.pdf](http://www.fsis.usda.gov/PDF/Labeling_Requirements_Guide.pdf)

This proposal was discussed at the 2008 WWMA Annual, NEWMA Interim and at the SWMA Annual Meeting. All regions agree that the L&R National Committee recommend that the NIST Technical Editor have editorial privileges to replace the current printed information with a web link.

For additional information on this item, contact Lisa Warfield, NIST at lisa.warfield@nist.gov or (301) 975-3308.

### **270-7 Method of Sale and Engine Fuel Quality Requirements for Hydrogen**

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

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

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

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

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

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

For additional information on this item, contact Kenneth Butcher, NIST at [Kenneth.butcher@nist.gov](mailto:Kenneth.butcher@nist.gov) or (301) 975-4859 or Lisa Warfield at [lisa.warfield@nist.gov](mailto:lisa.warfield@nist.gov) or (301) 975-3308.

### **270-8 Method of Sale for Fireplace and Stove Wood, flavoring chips and packaged natural wood**

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

**Background:** A state cited a company in violation of their net quantity contents labeling for flavoring chips. This citation also led to this company's product being pulled from sale and they were asked to review all their packaging and labeling. The company requested assistance from NIST W&M on the appropriate unit of metric measure for their flavoring chip packaging. Upon further review from NIST W&M, it became evident that the regulation lacked clarity for the proper unit use of metric measure by volume. Cubic meter carried out to three decimal points has limited meaning.

Section 2.4.3.(d) in the Method of Sale Regulation for Flavoring Chips states that they shall be sold by volume, but falls short of saying which volume units are required. Most packers go to 2.4.3. Quantity, where the guidance given implies that it must be sold by the cubic meter. This places the Method of Sale in conflict with UPLR Declaration of Quantity for Consumer Packages Rule of 1000. Using cubic centimeters puts packers in conflict as well. Most states, if not all, give precedent to UPLR over the Method of Sale.

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

**Proposal:**

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

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

(a) **Fireplace and stovewood – Shall be advertised, offered for sale, and sold only by measure, using the term “cord” and fractional parts of a cord or the cubic meter.**

(~~a~~) (b) Packaged natural wood. – Natural wood offered for sale in packaged form in quantities less than 0.45 m<sup>3</sup> (1/8 cord or 16 ft<sup>3</sup>) shall display the quantity in terms of ~~cubic meters~~ **liters**, to include decimal fractions of cubic meters; or cubic feet **or cubic inches**, to include fractions of cubic feet.

(~~b~~) (c) Artificial compressed or processed logs. – A single fireplace log shall be sold by weight, and packages of such individual logs shall be sold by weight plus count.

(~~c~~) (d) Stove wood pellets or chips. – Pellets or chips not greater than 15 cm (6 in) in any dimension shall be sold by weight. This requirement does not apply to flavoring chips.

(Amended 1976 and 1991)

(~~d~~) (e) Flavoring chips. – ~~Flavoring chips shall be sold by volume.~~

(Added 1998) **Flavoring chips offered for sale in packaged form in quantities less than 0.45 m<sup>3</sup> (1/8 cord or 16 ft<sup>3</sup>) shall display the quantity in terms of liters, to include decimal fractions of liters; or cubic feet or cubic inches, to include fractions of cubic feet.**

For additional information on this item, contact David Sefcik at david.sefcik@nist.gov or (301) 975-4868.

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Joe Gomez, NM, Chairman

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Jonelle Brent, Illinois  
John Gaccione, New York  
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**Laws and Regulations Committee**