

NCWM S&T Carryover Item 332-1 Proposed Revisions to NIST Handbook 44 LPG & NH₃ Code

Recommendations from the Meter Manufacturers Association (MMA) & NIST Office of Weights and Measures (NIST OWM) – September 2015

The following proposes revisions to align the LPG & NH₃ Codes with respect to requirements for retail motor-fuel dispensing applications. These proposed revisions include input from WWMA's fall 2014 meeting; MMA; and NIST OWM along with additional suggestions from MMA and NIST OWM made following the 2015 NCWM Annual Meeting. MMA and NIST propose that the following replace the "Item Under Consideration" shown in the S&T Committee's 2015 Interim and Annual Reports. At its September 15-16, 2015 Annual Meeting, the NTEP Measuring Sector also reviewed this proposal and indicated its support for this version.

S.1.4. For Retail Devices Only.

S.1.4.1. Indication of Delivery. – A retail device shall ~~be constructed to show~~ automatically show on its face the initial zero condition and the ~~amounts~~ quantity delivered up to the nominal capacity of the device. However, the following requirements shall apply:

For electronic devices manufactured prior to January 1, 2006, the first 0.03 L (or 0.009 gal) of a delivery and its associated total sales price need not be indicated.

For electronic devices manufactured on or after January 1, 2006, the measurement, indication of delivered quantity, and the indication of total sales price shall be inhibited until the fueling position reaches conditions necessary to ensure that the delivery starts at zero.

[Nonretroactive as of January 1, 2006]

(Amended 2014)

S.1.5. For Stationary Retail Devices Only.

S.1.5.1. Display of Unit Price and Product Identity. – ~~In a Δ device of the computing type, means shall be provided for displaying on each face of the device the unit price at which the device is set to compute or to deliver as the case may be, and there shall be conspicuously displayed on each side of the device the identity of the product that is being dispensed. If a device is so designed as to dispense more than one grade, brand, blend, or mixture of product, the identity of the grade, brand, blend, or mixture being dispensed shall also be displayed on each face of the device.~~

Except for dispensers used exclusively for fleet sales and other price contract sales, all of the unit prices at which that product is offered for sale shall meet the following conditions:

- (1) For a system that applies a discount prior to the delivery, all unit prices shall be displayed or shall be capable of being displayed on the dispenser through a deliberate action of the purchaser prior to the delivery of the product. It is not necessary that all of the unit prices be simultaneously displayed prior to the delivery of the product.
- (2) For a system that offers post-delivery discounts on fuel sales, display of pre-delivery unit price information is exempt from (1) above, provided the system complies with S.1.5.5. Recorded Representations for Transactions Where a Post-Delivery Discount(s) is Provided.

Note: When a product is offered at more than one unit price, display of the unit price information may be through the deliberate action of the customer: 1) using controls on the device; 2) through the customer's use of personal or vehicle-mounted electronic equipment communicating with the system; or 3) verbal instructions by the customer.

[Nonretroactive as of January 1, 201X]

(Added 201X)

S.1.5.3. Recorded Representations, Point of Sale Systems.— Except for fleet sales and other price contract sales, a printed receipt providing the following information shall be available through a built-in or separate recording element for all transactions conducted with point-of-sale systems or devices activated by debit cards, credit cards, and/or cash:

- (a) the total volume of the delivery;
- (b) the unit price;
- (c) the total computed price; and
- (d) the product identity by name, symbol, abbreviation, or code number.

(Added 2014)

S.1.5.3. Agreement Between Indications.

- (a) When a quantity value indicated or recorded by an auxiliary element is a derived or computed value based on data received from a device, the value may differ from the quantity value displayed on the dispenser, provided that the following conditions are met:
 - (1) all total values for an individual sale that are indicated or recorded by the system agree, and
 - (2) within each element, the values indicated or recorded meet the formula (quantity x unit price = total sales price) to the closest cent.
- (b) When a system applies a post-delivery discount(s) to a fuel's unit price through an auxiliary element, the total volume of the delivery shall be in agreement between all elements in the system.

[Nonretroactive as of January 1, 201X]

(Added 201X)

S.1.5.4. Recorded Representations. – Except for fleet sales and other price contract sales and for transactions where a post-delivery discount is provided, a receipt providing the following information shall be available through a built-in or separate recording element for all transactions conducted with point-of-sale systems or devices activated by debit cards, credit cards, and/or cash:

- (a) the total volume of the delivery;
- (b) the unit price;
- (c) the total computed price; and
- (d) the product identity by name, symbol, abbreviation, or code number.

(Added 2016)

S.1.5.5. Recorded Representations for Transactions Where a Post-Delivery Discount(s) is Provided. – Except for fleet sales and other price contract sales, a printed receipt providing the following information shall be available through a built-in or separate recording element that is part of the system for transactions involving a post-delivery discount:

- (a) the product identity by name, symbol, abbreviation, or code number;
- (b) transaction information as shown on the dispenser at the end of the delivery and prior to any post-delivery discount(s), including the:
 - (1) total volume of the delivery;
 - (2) unit price; and
 - (3) total computed price of the fuel sale.
- (c) an itemization of the post-delivery discounts to the unit price; and
- (d) the final total price of the fuel sale after all post-delivery discounts are applied.

(Added 201X)

S.1.5.6. Transaction Information, Power Loss. In the event of a power loss, the information needed to complete any transaction in progress at the time of the power loss (such as the quantity and unit price, or sales price) shall be determinable for at least 15 minutes at the device or other onsite device accessible to the customer.

[Nonretroactive as of January 1, 201X]

(Added 201X)

S.1.5.7. Totalizers for Retail Motor-Fuel Dispensers. – Retail motor-fuel dispensers shall be equipped with a nonresettable totalizer for the quantity delivered through the metering device.
[Nonretroactive as of January 1, 201X]
(Added 201X)

S.2. Design of Measuring Elements.

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S.2.5. Zero-Set-Back Interlock for Stationary Retail Motor-Fuel Devices – A device shall be constructed so that:

- (a) after a delivery cycle has been completed by moving the starting lever to any position that shuts off the device, an automatic interlock prevents a subsequent delivery until the indicating elements, and recording elements if the device is equipped and activated to record, have been returned to their zero positions;
- (b) the discharge nozzle cannot be returned to its designed hanging position (that is, any position where the tip of the nozzle is placed in its designed receptacle and the lock can be inserted) until the starting lever is in its designed shut-off position and the zero-set-back interlock has been engaged; and
- (c) in a system with more than one dispenser supplied by a single pump, an effective automatic control valve in each dispenser prevents product from being delivered until the indicating elements on that dispenser are in a correct zero position.

[Nonretroactive as of January 1, 201X]
(Added 201X)

~~S.2.6.~~ S.2.5. Thermometer Well. – For test purposes, means shall be provided to determine the temperature of the liquid either:

- (a) in the liquid chamber of the meter; or
- (b) in the meter inlet or discharge line and immediately adjacent to the meter.

(Amended 1987)

~~S.2.7.~~ S.2.6. Automatic Temperature Compensation. – A device may be equipped with an adjustable automatic means for adjusting the indication and registration of the measured volume of product to the volume at 15 °C (60 °F).

~~S.2.7.1.~~ S.2.6.1. Provision for Deactivating. – On a device equipped with an automatic temperature-compensating mechanism that will indicate or record only in terms of liters or gallons adjusted to 15 °C (60 °F), provision shall be made to facilitate the deactivation of the automatic temperature-compensating mechanism so that the meter may indicate, and record if it is equipped to record, in terms of the uncompensated volume.
(Amended 1972)

~~S.2.7.2.~~ S.2.6.2. Provision for Sealing. – Provision shall be made for applying security seals in such a manner that an automatic temperature-compensating system cannot be disconnected and that no adjustment may be made to the system.

UR.2. Use Requirements.

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UR.2.7. For Stationary Retail Computing Type Systems Only, Installed After January 1, 201X.
UR.2.7.1. Unit Price and Product Identity.

- (a) The following information shall be conspicuously displayed or posted on the face of a retail dispenser used in direct sale:
 - (1) except for unit prices resulting from any post-delivery discount and dispensers used exclusively for fleet sales, other price contract sales, and truck refueling (e.g., truck stop dispensers used only to refuel trucks), all of the unit prices at which the product is offered for sale; and

- (2) in the case of a computing type device or money-operated type device, the unit price at which the dispenser is set to compute.

Provided that the dispenser complies with S.1.5.1. Display of Unit Price and Product Identity, it is not necessary that all the unit prices be simultaneously displayed or posted.

- (b) The following information shall be conspicuously displayed or posted on each side of a retail dispenser used in direct sale:

- (1) the identity of the product in descriptive commercial terms; and
(2) the identity of the grade, brand, blend, or mixture that a multi-product dispenser is set to deliver.

(Added 201X)

UR.2.7.2. Computing Device. – Any computing device used in an application where a product or grade is offered for sale at one or more unit prices shall be used only for sales for which the device computes and displays the sales price for the selected transaction.

The following exceptions apply:

- (a) Fleet sales and other price contract sales are exempt from this requirement.
- (b) A truck stop dispenser used exclusively for refueling trucks is exempt from this requirement provided that:
- (1) all purchases of fuel are accompanied by a printed receipt of the transaction containing the applicable price per unit of measure, the total quantity delivered, and the total price of the sale; and
- (2) unless a dispenser complies with S.1.5.1. Display of Unit Price, the price posted on the dispenser and the price at which the dispenser is set to compute shall be the highest price for any transaction which may be conducted.
- (c) A dispenser used in an application where a price per unit discount is offered following the delivery is exempt from this requirement, provided the following conditions are satisfied:
- (1) the unit price posted on the dispenser and the unit price at which the dispenser is set to compute shall be the highest unit price for any transaction;
- (2) all purchases of fuel are accompanied by a receipt recorded by the system for the transaction containing:
- a. the product identity by name, symbol, abbreviation, or code number;
- b. transaction information as shown on the dispenser at the end of the delivery and prior to any post-delivery discount including the:
1. total volume of the delivery;
2. unit price; and
3. total computed price of the fuel sale prior to post-delivery discounts being applied.
- c. an itemization of the post-delivery discounts to the unit price; and
- d. the final total price of the fuel sale after all post-delivery discounts are applied.

(Added 201X)