The following tables contain lists of existing NIST Handbook 44 paragraphs with approaching retroactive or nonretroactive enforcement dates or recently adopted requirements that become effective as of January 1, 2011. These requirements may require action by device manufacturers, owners/operators, or regulatory officials. This information is provided to alert interested parties to upcoming Handbook 44 requirements. Requirements in the tables may be paraphrased; therefore, the latest edition of Handbook 44 should be consulted for the complete text. Codes that were amended to provide greater clarity or make other editorial changes are not included in this information. A complete report of changes to the handbook is published annually in the Report of the National Conference on Weights and Measures. Changes to requirements are also referenced in the amendments table in each edition of Handbook 44. It is recommended that you contact the statutory authority in your weights and measures jurisdiction for specific details on the enforcement of these code requirements.

Retroactive requirements apply to *all* equipment in commercial service prior to, and in use at any time on or after, the enforcement date. Nonretroactive requirements are enforceable for equipment: (1) manufactured, (2) new and used brought into a jurisdiction, and (3) previously in noncommercial use, then placed into commercial use *after* the effective date. Note: Paragraphs designated with a bracketed superscript number one [[1]] include multiple requirements with various enforcement dates.

NIST Handbook 44 Codes (With Approaching Retroactive and Nonretroactive Enforcement Date)			
Code	**Paragraph**	**Requirement**	**Effective Date**
This table is being maintained as a template for future use. There are no paragraphs in the 2011 edition of NIST Handbook 44 with approaching retroactive or nonretroactive enforcement dates to be included in this table.			

NIST Handbook 44 Codes Newly Adopted or Recently Modified (Effective January 1, 2011)				
Code	**Paragraph**	**Requirement**	**New or Modified Requirement**	**Effective Date**
2.20 Scales	**S.2.1.1. General.**	**A scale shall be equipped with means by which the zero-load balance may be adjusted. Any loose material used for this purpose shall be enclosed so that it cannot shift in position and alter the balance condition of the scale.** **Except for an Initial Zero-Setting Mechanism, an automatic zero adjustment outside the limits specified in S.2.1.3. for an automatic zero-tracking mechanism is prohibited.**	**Modified paragraph**	**Applies to all equipment on January 1, 2011**
2.20 Scales	**T.N.4.5.1. Time Dependence: Class II, III, and IIII Non-automatic Weighing Instruments.**	**A non-automatic weighing instrument of Classes II, III, and IIII shall meet the following requirements at constant test conditions. During type evaluation, this test shall be conducted at 20 °C ± 2 °C (68 °F ± 4 °F):** **(a) When any load is kept on an instrument, the difference between the indication obtained immediately after placing the load and the indication observed during the following 30 minutes shall not exceed 0.5 e. However, the difference between the indication obtained at 15 minutes and the indication obtained at 30 minutes shall not exceed 0.2 e.** **(b) If the conditions in (a) are not met, the difference between the indication obtained immediately after placing the load on the instrument and the indication observed during the following 4 hours shall not exceed the absolute value of the maximum permissible error at the load applied.**	**Modified paragraph**	**Applies to all equipment on January 1, 2011**

NIST Handbook 44 Codes Newly Adopted or Recently Modified (Effective January 1, 2011)				
Code	**Paragraph**	**Requirement**	**New or Modified Requirement**	**Effective Date**
2.20 Scales	**T.N.4.5.2. Time Dependence: Class III L Non-automatic Weighing Instruments.**	**A non-automatic weighing instrument of Class III L shall meet the following requirements:** **(a) When any load is kept on an instrument, the difference between the indication obtained immediately after placing the load and the indication observed during the following 30 minutes shall not exceed 1.5 e. However, the difference between the indication obtained at 15 minutes and the indication obtained at 30 minutes shall not exceed 0.6 e.** **(b) If the conditions in (a) are not met, the difference between the indication obtained immediately after placing the load on the instrument and the indication observed during the following 4 hours shall not exceed the absolute value of the maximum permissible error at the load applied.**	**Modified paragraph**	**Applies to all equipment on January 1, 2011**

NIST Handbook 44 Codes Newly Adopted or Recently Modified (Effective January 1, 2011)				
Code	**Paragraph**	**Requirement**	**New or Modified Requirement**	**Effective Date**
2.20 Scales	**T.N.4.5.3. Zero Load Return: Non-automatic Weighing Instruments.**	**A non-automatic weighing instrument shall meet the following requirements at constant test conditions. During type evaluation, this test shall be conducted at 20 °C ± 2 °C (68 °F ± 4 °F). The deviation on returning to zero as soon as the indication has stabilized, after the removal of any load which has remained on the instrument for 30 minutes shall not exceed:** **(a) 0.5 e for Class II and IIII devices,** **(b) 0.5 e for Class III devices with 4000 or fewer divisions,** **(c) 0.83 e for Class III devices with more than 4000 divisions, or** **(d) one-half of the absolute value of the applicable tolerance for the applied load for Class III L devices.** **For a multi-interval instrument, the deviation shall not exceed 0.83 e_1 (where e_1 is the interval of the first weighing segment of the scale).** **On a multiple range instrument, the deviation on returning to zero from Max_i (load in the applicable weighing range) shall not exceed 0.83 e_i (interval of the weighing range). Furthermore, after returning to zero from any load greater than Max_1 (capacity of the first weighing range) and immediately after switching to the lowest weighing range, the indication near zero shall not vary by more than e_1 (interval of the first weighing range) during the following 5 minutes.**	**New paragraph**	**Applies to all equipment on January 1, 2011**

NIST Handbook 44 Codes Newly Adopted or Recently Modified (Effective January 1, 2011)				
Code	**Paragraph**	**Requirement**	**New or Modified Requirement**	**Effective Date**
2.20 Scales	**UR.2.6.1. Vehicle Scales.**	**On the entrance and exit end(s) of a vehicle scale, there shall be a straight approach as follows:** **(a) the width at least the width of the platform,** **(b) the length at least one-half the length of the platform but not required to be more than 12 m (40 ft), and** **(c) not less than 3 m (10 ft) of any approach adjacent to the platform shall be in the same plane as the platform. Any slope in the remaining portion of the approach shall ensure (1) ease of vehicle access, (2) ease for testing purposes, and (3) drainage away from the scale.** **In addition to (a), (b), and (c), scales installed in any one location for a period of 6 months or more shall have not less than 3 m (10 feet) of any approach adjacent to the platform constructed of concrete or similar durable material to ensure that this portion remains smooth and level and in the same plane as the platform; however, grating of sufficient strength to withstand all loads equal to the concentrated load capacity of the scale may be installed in this portion.** **Applies to equipment in use on or after January 1, 1976.**	**Modified paragraph**	**Applies to all equipment on January 1, 2011**
2.22. Automatic Bulk Weighing Systems	**S.2.1. Zero-Load Adjustment.**	**The weighing system shall be equipped with manual or semiautomatic means by which the zero-load balance or no-load reference value indication may be adjusted. Automatic zero-tracking and automatic zero-setting mechanisms are prohibited.**	**Modified paragraph**	**Applies to all equipment on January 1, 2011**
2.24. Automatic Weighing Systems	**S.2.1.1. Automatic Zero-Tracking Mechanism.**	**Except for automatic checkweighers, under normal operating conditions the maximum load that can be "rezeroed," when either placed on or removed from the platform all at once, shall be 1.0 scale division.** **Except for an initial zero-setting mechanism, an automatic zero adjustment outside these limits is prohibited.**	**Modified paragraph**	**Applies to all equipment on January 1, 2011**

NIST Handbook 44 Codes Newly Adopted or Recently Modified (Effective January 1, 2011)				
Code	**Paragraph**	**Requirement**	**New or Modified Requirement**	**Effective Date**
3.31. Vehicle-Tank Meters	**T.2.1. Automatic Temperature-Compensating Systems.**	**The difference between the meter error (expressed as a percentage) for results determined with and without the automatic temperature-compensating system activated shall not exceed:** **(a) 0.2 % for mechanical automatic temperature-compensating systems; and** **(b) 0.1 % for electronic automatic temperature-compensating systems.** **The delivered quantities for each test shall be approximately the same size. The results of each test shall be within the applicable acceptance or maintenance tolerance.**	**Modified paragraph**	**Applies to all equipment on January 1, 2011**

NIST Handbook 44 Codes Newly Adopted or Recently Modified
(Effective January 1, 2011)

<table>
<tr><th>Code</th><th>Paragraph</th><th>Requirement</th><th>New or Modified Requirement</th><th>Effective Date</th></tr>
<tr><td>3.36. Water Meters</td><td>N.4.2. Special Tests.</td><td>
Special tests to develop the operating characteristics of meters may be made according to the rates and quantities specified in Table N.4.2.a for Batching Water Meters and Table N.4.2.b. for Utility Type Water Meters.

Table N.4.2.a.
Flow Rate and Draft Size for Batching Water Meters Special Tests
<table>
<tr><th rowspan="3">Meter Size (inches)</th><th colspan="3">Intermediate Rate</th><th colspan="3">Minimum Rate</th></tr>
<tr><th rowspan="2">Rate of Flow (gal/min)</th><th colspan="2">Meter Indication/Test Draft</th><th rowspan="2">Rate of Flow (gal/min)</th><th colspan="2">Meter Indication/Test Draft</th></tr>
<tr><th>gal</th><th>ft^3</th><th>gal</th><th>ft^3</th></tr>
<tr><td>Less than or equal to 5/8</td><td>2</td><td>10</td><td>1</td><td>¼</td><td>5</td><td>1</td></tr>
<tr><td>¾</td><td>3</td><td>10</td><td>1</td><td>½</td><td>5</td><td>1</td></tr>
<tr><td>1</td><td>4</td><td>10</td><td>1</td><td>¾</td><td>5</td><td>1</td></tr>
<tr><td>1½</td><td>8</td><td>50</td><td>5</td><td>1½</td><td>10</td><td>1</td></tr>
<tr><td>2</td><td>15</td><td>50</td><td>5</td><td>2</td><td>10</td><td>1</td></tr>
<tr><td>3</td><td>20</td><td>50</td><td>5</td><td>4</td><td>10</td><td>1</td></tr>
<tr><td>4</td><td>40</td><td>100</td><td>10</td><td>7</td><td>50</td><td>5</td></tr>
<tr><td>6</td><td>60</td><td>100</td><td>10</td><td>12</td><td>50</td><td>5</td></tr>
</table>
(Table Added 2003) (Table Amended 2010)

Table N.4.2.b.
Flow Rate and Draft Size for Utility Type Water Meters Special Tests
<table>
<tr><th rowspan="3">Meter Size (inches)</th><th colspan="3">Intermediate Rate</th><th colspan="3">Minimum Rate</th></tr>
<tr><th rowspan="2">Rate of Flow (gal/min)</th><th colspan="2">Meter Indication/Test Draft</th><th rowspan="2">Rate of Flow (gal/min)</th><th colspan="2">Meter Indication/Test Draft</th></tr>
<tr><th>gal</th><th>ft^3</th><th>gal</th><th>ft^3</th></tr>
<tr><td>Less than 5/8</td><td>2</td><td>10</td><td>1</td><td>¼</td><td>5</td><td>1</td></tr>
<tr><td>5/8</td><td>2</td><td>10</td><td>1</td><td>¼</td><td>5</td><td>1</td></tr>
<tr><td>5/8 x ¾</td><td>2</td><td>10</td><td>1</td><td>¼</td><td>5</td><td>1</td></tr>
<tr><td>¾</td><td>3</td><td>10</td><td>1</td><td>½</td><td>5</td><td>1</td></tr>
<tr><td>1</td><td>4</td><td>10</td><td>1</td><td>¾</td><td>5</td><td>1</td></tr>
<tr><td>1½</td><td>8</td><td>100</td><td>10</td><td>1½</td><td>100</td><td>10</td></tr>
<tr><td>2</td><td>15</td><td>100</td><td>10</td><td>2</td><td>100</td><td>10</td></tr>
</table>
(Table Added 2010)
</td><td>Modified paragraph, modified table, and a new table added</td><td>Applies to all equipment on January 1, 2011</td></tr>
</table>

NIST Handbook 44 Codes Newly Adopted or Recently Modified
(Effective January 1, 2011)

<table>
<tr><th>Code</th><th>Paragraph</th><th>Requirement</th><th>New or Modified Requirement</th><th>Effective Date</th></tr>
<tr><td>3.36 Water Meters</td><td>T.1.1. Repeatability</td><td>When multiple tests are conducted at approximately the same flow rate, each test shall be within the applicable tolerances and the range of test results shall not exceed the values shown in Table T.1.1. Repeatability.

Table T.1.1.
Repeatability
<table><tr><th></th><th>Batching Meters</th><th>Utility-Type Meters</th></tr><tr><td>Normal Flow Rates</td><td>0.6 %</td><td>0.6 %</td></tr><tr><td>Intermediate Flow Rates</td><td>0.6 %</td><td>2.0 %</td></tr><tr><td>Minimum Flow Rate</td><td>1.3 %</td><td>4.0 %</td></tr></table>(Table Added 2010)</td><td>Modified paragraph and new table added</td><td>Applies to all equipment on January 1, 2011</td></tr>
<tr><td>3.39 Hydrogen Gas-Measuring Devices</td><td>New tentative code</td><td>Requirements to be applied (on a trial basis) to devices that are used for the measurement of hydrogen gas in the vapor state used as a vehicle fuel.</td><td>New tentative code</td><td>Tentative code to be applied on a trial basis beginning January 1, 2011 and <u>not</u> intended to be enforced.</td></tr>
<tr><td>Definitions Appendix D</td><td>automatic zero-setting mechanism (AZSM)</td><td>A new reference to the term “automatic zero-setting mechanism (AZSM)” was added under the letter designation “A” as follows:

automatic zero-setting mechanism (AZSM). – See “automatic zero-setting mechanism” under “zero-setting mechanism.”</td><td>New reference added</td><td>Applies to equipment in Section 2.22.</td></tr>
</table>

NIST Handbook 44 Codes Newly Adopted or Recently Modified (Effective January 1, 2011)				
Code	**Paragraph**	**Requirement**	**New or Modified Requirement**	**Effective Date**
Definitions Appendix D	**automatic zero-setting mechanism (AZSM)**	**A new definition for "automatic zero-setting mechanism" was added as an associated sub-definition to the term "zero-setting mechanism" under the letter designation "Z" as follows:** **zero-setting mechanism. – Means provided to attain a zero balance indication with no load on the load-receiving element. The types of zero-setting mechanisms are:** **automatic zero-setting mechanism (AZSM). – Automatic means provided to set the zero-balance indication without the intervention of an operator.** **(Added 2010)**	**New definition**	**Applies to equipment in Section 2.22.**
Definitions Appendix D	**automatic zero-tracking (AZT) mechanism.**	**The definition and location of the term "automatic zero-tracking (AZT) mechanism" were changed. The term and its definition had previously appeared as a sub-definition of "zero-setting mechanism" under the letter designation "Z." The term combined with its modified definition (shown below) is now located under the letter designation "A."** **automatic zero-tracking (AZT) mechanism. Automatic means provided to maintain the zero balance indication, within specified limits, without the intervention of an operator.**	**Modified definition/ location changed**	**Applies to equipment in Sections 2.20, 2.22, and 2.24.**

NIST Handbook 44 Codes Newly Adopted or Recently Modified (Effective January 1, 2011)				
Code	**Paragraph**	**Requirement**	**New or Modified Requirement**	**Effective Date**
Definitions Appendix D	**initial zero-setting mechanism.**	**The definition of the term "initial zero-setting mechanism" was relocated. It had previously appeared as a stand-alone definition under the letter designation "I." It now appears as a sub-definition to the term "zero-setting mechanism" under the letter designation "Z" as follows:** **zero-setting mechanism. – Means provided to attain a zero balance indication with no load on the load-receiving element. The types of zero-setting mechanisms are:** **initial zero-setting mechanism. – Automatic means provided to set the indication to zero at the time the instrument is switched on and before it is ready for use.**	**Definition relocated**	**Applies to equipment in Section 2.20.**
Definitions Appendix D	**initial zero-setting mechanism.**	**The following reference to "initial zero-setting mechanism" was added under the letter designation "I.":** **initial zero-setting mechanism. – See "initial zero-setting mechanism" under "zero-setting mechanism."**	**New reference added**	**Applies to equipment in Section 2.20.**