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| 2019 Amendments |
| The following table lists the codes, paragraphs, and pages in which the 104th National Conference on Weights and Measures made amendments. In the column headed “Action,” changes are noted as “added,” “amended,” “deleted,” or “renumbered.” Each code, section, or paragraph that has been changed will be noted as “Added 2019” or “Amended 2019.” |

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| **SECTION** | **CODE** | **S&TITEM NO.** | **PARAGRAPH** | **ACTION** | **PAGE** |
| 1.10. | General | GEN-2 | G-S.8.2. | Added | 1-9 |
| 2.20. | Scales  | SCL-1 | S.1.1.1.(c) | Added | 2-7 |
| UR.2.10. | Added | 2-49 |
| SCL-5 | S.1.11. | Amended | 2-13 |
| S.1.11.1., S.1.11.2. | Added | 2-13 |
| 2.21. | Belt-Conveyor Scale Systems  | BCS-1 | S.1.3.1. | Amended | 2-59 |
| S.1.3.3. | Added | 2-60 |
| S.1.9. | Amended | 2-61 |
| S.4. | Added. Subsequent paragraphs renumbered | 2-62 |
| S.5. | Renumbered from S.4. and Amended | 2-62 |
| S.6. and Table S.6. | Renumbered from S.5. and Table S.5.and updated to reflect the revised Table number | 2-63 |
| N.1. | Amended | 2-63 |
| N.2.1. | Amended | 2-64 |
| N.2.2. | Amended | 2-64 |
| N.2.3.1. and N.2.3.2. | Amended | 2-65 |
| N.3.1.2. and N.3.1.3. | Amended | 2-66 |
| N.3.2. | Amended | 2-66 |
| N.3.2.1. | Amended | 2-67 |
| T.1., T.1.1. | Amended | 2-68 |
| T.2.1. | Amended | 2-69 |
| T.2.2. | Added | 2-69 |
| UR.3.(a), Table UR.3. | Amended | 2-72 |
| 2.22. | Automatic Bulk Weighing Systems | ABW-2 | S.1.6. | Amended | 2-78 |
| **SECTION** | **CODE** | **S&TITEM NO.** | **PARAGRAPH** | **ACTION** | **PAGE** |
| 2.24. | Automatic Weighing Systems | AWS-2 | S.1.3. | Amended | 2-97 |
| AWS-3 | S.3.2. | Amended | 2-99 |
| 3.30. | Liquid-Measuring Devices  | LMD-1 | S.2.2. | Amended | 3-12 |
| LMD-2 | N.4.6. | Renumbered from N.4.1.2. and Amended | 3-20 |
| T.3. | Amended | 3-21 |
| LMD-3 | A.1., S.1.6.10., S.2.5., S.4.4.1., S.4.4.2., S.5., N.4.4.2., UR.2.4., UR.2.5. | Amended | 3-5to3-43 |
| LMD-5 | UR.3.4. | Amended | 3-24 |
| 3.31.  | Vehicle-Tank Meters | VTM-2 | S.2.2. | Amended | 3-34 |
| VTM-3 | N.4.7. | Renumbered from N.4.1.2. and Amended | 3-40 |
| N.4.1.2. | Renumbered from N.4.1.3. | 3-39 |
| T.3. | Amended | 3-42 |
| 3.32. | LPG and Anhydrous Ammonia Liquid-Measuring Devices  | LPG-1 | S.2.2. | Amended | 3-52 |
| LPG-2 | S.2.5. | Amended | 3-53 |
| LPG-4 | N.4.4. | Renumbered from N.4.1.2. and Amended | 3-57 |
| T.3. | Amended | 3-57 |
| 3.33. | Hydrocarbon Gas Vapor-Measuring Devices | HGV-1 | S.2.2. | Amended | 3-65 |
| HGV-2 | N.4.3. | Renumbered from N.4.1.2. and Amended | 3-67 |
| T.2. | Amended | 3-68 |
| 3.34. | Cryogenic Liquid-Measuring Devices | CLM-2 | S.2.5. | Amended | 3-78 |
| CLM-3 | N.5.3. | Renumbered from N.5.1.1. and Amended | 3-81 |
| T.4. | Amended | 3-82 |
| 3.35. | Milk Meters | MLK-1 | S.2.3. | Amended | 3-89 |
| MLK-2 | N.4.4. | Renumbered from N.4.1.1. and Amended | 3-92 |
| T.3. | Amended | 3-92 |

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| **SECTION** | **CODE** | **S&TITEM NO.** | **PARAGRAPH** | **ACTION** | **PAGE** |
| 3.36. | Water Meters | WTR-1 | S.2.1. | Amended | 3-99 |
| WTR-2 | N.4.4. | Renumbered from N.4.1.1. and Amended | 3-102 |
| 3.37. | Mass Flow Meters | MFM-2 | S.1.3.3. | Amended | 3-108 |
| MFM-3 | S.2.9. | Added | 3-110 |
| MFM-1 | S.3.5. | Amended | 3-111 |
| MFM-4 | S.5.1. | Amended | 3-114 |
| MFM-6 | N.6.3. | Renumbered from N.6.1.1. and Amended | 3-116 |
| T.3. | Amended | 3-117 |
| 3.38. | Carbon Dioxide Liquid-Measuring Devices  | CDL-3 | S.2.5. | Amended | 3-125 |
| CDL-4 | N.4.5. | Renumbered from N.4.1.1. and Amended | 3-134 |
| T.2.1. | Amended | 3-134 |
| 3.39. | Hydrogen Gas-Measuring Devices | HGM-4 | S.2.8. | Added | 3-141 |
| HGM-3 | S.3.3. | Amended | 3-141 |
| HGM-5 | N.6.2. | Renumbered from N.6.1.1. and Amended | 3-145 |
| T.3. | Amended | 3-146 |
| HGM-6 | Preamble | Deleted references to the “tentative” status and designated the Code as “permanent” | 3-139 |
| A.2.(c). | Amended | 3-139 |
| N.2., N.3., N.4.2., N.4.3. | Amended | 3-145 |
| 3.40. | Electric Vehicle Fueling Systems | EVF-2 | S.2.8 | Added | 3-156 |
| EVF-1 | S.3.3. | Amended | 3-157 |
| EVF-4 | Definition for “power factor” | Amended | 3-166 |
| 5.55. | Timing Devices | TIM-1 | S.4. | Amended | 5-43 |
| 5.54. | Taximeters  | TXI-1 | N.1.3.2.1. | Deleted and renumbered subsequent paragraph. | 5-35 |
| 5.56.(a) | Grain Moisture Meters | GMA-1 | S.2.5. | Amended | 5-52 |
| GMA-2 | Table S.2.5. | Amended | 5-53 |
| **SECTION** | **CODE** | **S&TITEM NO.** | **PARAGRAPH** | **ACTION** | **PAGE** |
| 5.58. | Multiple Dimension Measuring Devices | MDM-1 | S.1.11. | Amended | 5-86 |
| Appendix D | Definitions | HGM-6 | audit trail | Amended to include references to 3.39. and other relevant codes | D-5 |
| calibration parameter | D-8 |
| configuration parameter | D-9 |
| discharge hose | D-11 |
| discharge line | D-11 |
| equipment, commercial | D-12 |
| event counter | D-12 |
| event logger | D-12 |
| point-of-sale system | D-22 |
| remote configuration capability | D-24 |
| retail device | D-24 |
| wet hose | D-30 |
| wet hose-type | D-30 |
| HGM-6 | automatic temperature or density compensation | Amended to add a reference to “hydrogen gas” | D-6 |
| HGM-6 | minimum measured quantity | Added  | D-18 |
| non-resettable totalizer | Added | D-20 |

| 2019 Editorial Changes |
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| SECTION | CODE | PARAGRAPH | ACTION | PAGE |
| 3.30 | Liquid-Measuring Devices | Table 1. Money-Value Divisions and Maximum Allowable Variations for Money-Value Computations on Mechanical Analog Computers | Reformatted the first two columns of the last two rows addressing unit prices from $0.75/liter (or $3.00/gal) to $2.50/liter (or $10.00/gal) for clarity of application. | 3-9 |
| T.4. | Delete “for results” and make “error” plural to clarify the application of the tolerance. | 3-21 |
| 3.31 | Vehicle-Tank Meters | T.2. | Updated the reference to Table 1 to reflect the change in its title. | 3-40 |
| Table 1, T.2. | Add “Other Than Vehicle-Mounted Milk Meters” to the title of Table 1 to distinguish its scope from that of Table 2. | 3-40 and 3-41 |
| T.2.1. | Delete “for results” and make “error” plural to clarify the application of the tolerance. | 3-42 |
| 3.32 | LPG & Anhydrous Ammonia Liquid-Measuring Devices | T.4. | Delete “for results” and make “error” plural to clarify the application of the tolerance. | 3-58 |
| Table 1. Money-Value Divisions and Maximum Allowable Variations for Money-Value Computations on Mechanical Analog Computers | Reformatted the first two columns of the last two rows addressing unit prices from $0.75/liter (or $3.00/gal) to $2.50/liter (or $10.00/gal) for clarity of application. | 3-50 |
| Appendix B | Units and Systems of Measurement | Multiple sections, including:* 2.1. Origin and Early History of Units and Standards
* 2.2. The Metric System
* 3.2. Standards of Mass
 | Revisions made throughout the Appendix to: (1) reference 2019 actions in the U.S. and internationally to redefine the traceability of mass measurements based on Planck’s constant; and (2) clarify the use and definitions of the International System of Units. | B-3 throughB-10 |
| Appendix C | General Table of Units of Measurement | Footnote 9 and 10 | Added notice regarding deprecation of U.S. survey foot. | C-8 and C-10 |
| Appendix D | Definitions | unit price | Updated Code References to include 3.39 Hydrogen Gas-Measuring Devices. | D-28 |