



Module: 8.1

NIST Handbook 44 and NIST Handbook 130 - Basic (Registered Service Agents)

Overview and Scope

This module outlines the learning objectives for general and basic concepts that apply to weighing and measuring devices used in commercial trade. The objectives focus on the concepts registered servicepersons must understand and apply to successfully perform their duties in placing in service, testing, repairing, and calibrating weighing and measuring devices. These include the organization and basic elements of NIST Handbook 44 General Code, and Appendices A, B, C, and D. Also included are the concepts contained in NIST Handbook 130, IV Uniform Regulations, D, Uniform Regulation for the Voluntary Registration of Servicepersons and Service Agencies for Commercial Weighing and Measuring Devices and, E, Uniform Regulation for National Type Evaluation.

Prerequisites

None

Learning Objectives

1 Basic Organization of NIST Handbook 44

A registered service agent should understand the purpose and organization of Handbook 44 as outlined in Handbook 44, Introduction. To demonstrate this, the registered service agent can:

- 1.1 Explain the purpose of Handbook 44 and how it is amended through the work of the National Conference of Weights and Measures (NCWM) and the National Institute of Standards and Technology (NIST).
- 1.2 Describe how Handbook 44 is organized by section and the system of letters and numbers used for paragraph designations.
- 1.3 Recognize and apply the information found in the annual Amendments/Editorial Changes section of Handbook 44.
- 1.4 Locate General Code or specific device code requirements in Handbook 44 when cited by the section, device code, or paragraph designations.
- 1.5 Restate the meaning and use of “retroactive” and “nonretroactive” requirements presented in Handbook 44, Introduction, Section E.
- 1.6 Recognize the concepts presented in Handbook 44, Introduction, F, Using the Handbook.
- 1.7 Read and apply the definitions found in Handbook 44, Appendix D, Definitions.

2 NIST Handbook 44 - Fundamental Considerations

A registered serviceperson should understand Handbook 44, Appendix A, Fundamental Considerations Associated with Enforcement of Handbook 44 Codes. To demonstrate this, the registered serviceperson can:

- 2.1 Describe the difference between inspection and testing and the importance of each.
- 2.2 Explain acceptance and maintenance tolerances, the theory of tolerances, and adjustments for accuracy.
- 2.3 Explain the difference between the terms "accurate" and "correct" as it applies to weighing and measuring devices.
- 2.4 Describe the basic requirements for the testing apparatus and field standards used to conduct Handbook 44 tests.
 - 2.4.1 Recognize that field standards must be adequate for use in testing weighing and measuring equipment.
 - 2.4.2 Recognize that field standards must be recertified if damaged or if there are reasons to suspect the standard may be compromised.
- 2.5 Describe the enforcement tools and powers available to weights and measures officials to deal with devices that are incorrect or inaccurate.
- 2.6 Explain the difference between rejected and condemned equipment and the tagging and marking requirements.
- 2.7 Describe the types of official approval seals or marks used by officials and servicepersons and explain what each seal or mark does.

3 NIST Handbook 44 - General Code

A registered serviceperson should be able to apply the provisions of Handbook 44 General Code. To demonstrate this, the registered serviceperson can:

- 3.1 Recognize and understand the requirements under General Code, G-A. Application.
 - 3.1.1 Explain the term "commercial" as it relates to the application of commercial device regulations and determine, for common occurrences, whether a device is being used commercially.
 - 3.1.2 Explain the terms "retroactive" and "nonretroactive" as used in Handbook 44.
 - 3.1.3 Determine the status of specific requirements with respect to their effective dates.
- 3.2 Recognize and interpret General Code, G-S. Specification requirements.
- 3.3 Explain and apply General Code, G-N. Notes requirements.
- 3.4 Explain and apply General Code, G-T. Tolerances requirements. particularly the application of acceptance and maintenance tolerances.
- 3.5 Restate and apply General Code, G-UR. User Requirements.

4 NIST Handbook 44 - Units and Systems of Measurements and General Tables of Units of Measurement

A registered serviceperson should understand the organization and use of units of measurement in both the metric (SI) system and the US customary system. To demonstrate this, the registered serviceperson can:

- 4.1 Recognize units of measurement in the metric (SI) and the US customary system.
- 4.2 Apply the concepts found in Handbook 44, Appendix A, 10. Rounding Off Numerical Values.
 - 4.2.1 Apply the general rules for rounding off numerical values.
 - 4.2.2 Apply the rules for reading of indications.
- 4.3 Recognize Handbook 44, Appendix C. General Tables of Units of Measurement and their use in converting between metric (SI) and US customary measurement

5 NIST Handbook 130 - Regulation of Servicepersons and Service Agencies

A registered serviceperson should understand the concepts used to regulate servicepersons and service agencies found in Handbook 130, D, Uniform Regulation for the Voluntary Registration of Servicepersons and Service Agencies for Commercial Weighing and Measuring Devices. Please recognize that regulations vary from state to state and must be understood prior to working in a particular state.

- 5.1 Recognize the policies that can be applied to servicepersons and service agencies by a state agency.
- 5.2 Read and apply the definitions found in Handbook 130, Section 2. Definitions.
- 5.3 Understand the requirements for registration found in Handbook 130, Section 4. Voluntary Registration.
- 5.4 Recognize the minimum equipment, examination and calibration, and certification requirements for standards and testing equipment.
- 5.5 Understand the privileges and responsibilities of a registered service agent including the elements of a placed in service report.
- 5.6 Recognize the authority of the Director to suspend, revoke, or take other actions for failure to comply with regulatory requirements.

6 NIST Handbook 130 - National Type Evaluation

A registered serviceperson should understand the concepts of the National Type Evaluation Program (NTEP) found in Handbook 130, E. Uniform Regulation for the National Type Evaluation. Please recognize that regulations vary from state to state and must be understood prior to working in a particular state. To demonstrate this, the registered serviceperson can:

- 6.1 Recognize the application of the Uniform Regulation for National Type Evaluation.

- 6.2 Read and apply the definitions found in Section 2. Definitions.
- 6.3 Understand the requirements for a Certificate of Conformance found in Section 3. Certificate of Conformance (CC).
- 6.4 Recognize how a CC is formatted and the kinds of information provided on the certificate.
- 6.5 Understand where to find a CC for a device.
- 6.6 Apply the information found on a CC.

Contributors:

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