

Elements of a Weights and Measures Program

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NIST

NATIONAL INSTITUTE OF
STANDARDS AND TECHNOLOGY
U.S. DEPARTMENT OF COMMERCE

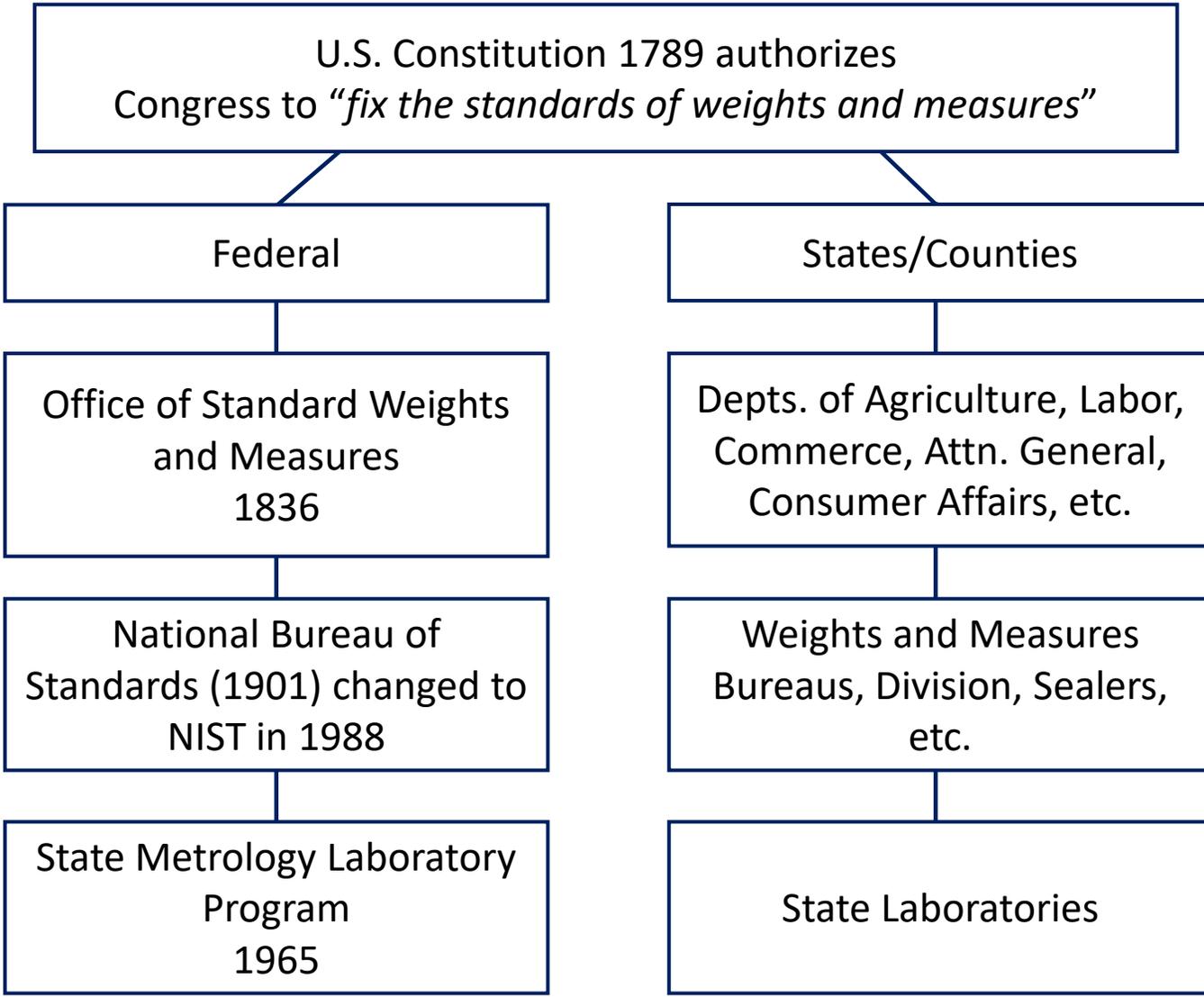
NCWM EVSE Training
10 February 2026

8 Elements of a Weights and Measures Program

1. Basics
2. Uniform Laws and Regulations
3. Regulatory Functions
4. Administration Functions
5. State Metrology Laboratories
6. Registered Service Companies
7. Record Keeping System
8. Compliance

- The structure in which transactions among businesses and the general public are conducted
- It is estimated that U.S. weights and measures regulations impact roughly 45% of the U.S. Gross Domestic Product (GDP)
- Effective laws and regulations ensure a well functioning commercial measurement system and an orderly marketplace
- Responsibility for oversight is shared among federal, state and local governments

U.S. Weights and Measures Structure



The Basics (Element 1)

- Consumers and businesses cannot protect themselves from fraud
- When weights and measures is not active in any sector of the marketplace fraud (intentional, accidental, ignorance or apathy) proliferates and competition suffers (every time!!)
- When fraud is real or perceived consumers lose confidence in business (and government) and the loss of competition harms business and the local economy
- One goal of weights and measures inspections is to provide a law enforcement **PRESENCE** in the marketplace to protect consumers and reputable businesses.
- Conduct every inspection and investigation as if you were going to present it before the highest court in your state

The Basics (cont'd)

- Respect the U.S. Constitution and Bill of Rights when it comes to due process and search and seizure. Administrative inspection law (per state) provides flexibility to do your job, but don't abuse it.
- The standard of proof is beyond a reasonable doubt
- Professionalism & Respect



RULE NO. 1

Protect Businesses and Consumers

Weights and Measures Laws and Regulations (Element 2)

- Power, authority and responsibilities of a weights and measures regulatory program need to be clearly defined
- Statutes are the foundation upon which weights and measures supervision is based
- Provides administrative authority and penalties for violations. Allows for effective enforcement
- NIST Handbook 130, “A. Uniform Weights and Measures Law” provides the basis for states

HB 130 II. Uniformity of Laws and Regulations



State	Laws			Regulations									
	Weights and Measures Law	Weighmaster Law or Regulation	Uniform Fuel Law	Packaging and Labeling	Method of Sale	Price Verification	Unit Pricing	Registration of Service Agencies	Type Evaluation	Uniform Fuel Regulation	E-Commerce	Handbook 44	Handbook 133
Alabama	yes	yes	yes	yes	yes	YES	NO	yes	yes	yes*	NO	YES	YES
Alaska	yes	NO	NO	yes	yes	yes	NO	NO	yes	NO	NO	YES	yes
Arizona	yes	yes	yes*	yes	yes	yes	NO	yes	yes	yes*	NO	yes	yes
Arkansas	YES	NO	YES	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES
California	yes*	yes*	yes*	YES	yes*	yes*	yes*	yes*	yes*	yes*	NO	YES	YES
Colorado	yes	yes	yes*	yes	yes	yes	NO	yes	yes	yes*	NO	YES	YES
Connecticut	yes	yes	yes*	YES	YES	YES	yes*	yes*	yes	yes	NO	YES	YES
Delaware	yes	yes	yes*	yes	yes	yes	no	yes*	yes	yes*	NO	YES	YES
District of Columbia	yes	yes	yes	yes	yes	yes	yes*	NO	yes	yes	NO	yes	yes
Florida	yes	NO	yes*	yes	yes	yes*	yes	yes	yes*	NO	yes	yes	yes
Georgia	yes	yes	yes*	yes	yes	YES	NO	yes	yes	yes*	NO	YES	YES
Hawaii	yes	yes	yes*	yes	yes	yes	yes	yes	yes*	NO	yes	yes	yes
Idaho	yes	yes	yes*	yes	yes	yes*	no	yes	yes	yes*	NO	YES	yes
Illinois	yes	NO	yes*	YES	YES	NO	NO	yes	yes	yes	NO	YES	YES
Indiana	yes	yes*	yes*	yes	yes	NO	NO	NO	yes	yes*	NO	yes	yes
Iowa	yes	yes*	yes*	yes	yes	YES	no	yes*	yes	yes*	YES	yes	yes
Kansas	yes*	NO	yes*	yes	yes	yes*	NO	yes*	yes	yes	NO	yes	yes
Kentucky	yes	NO	yes*	yes	yes	yes	NO	yes*	yes	yes*	NO	YES	yes
Louisiana	yes*	yes*	yes*	yes*	NO	YES	NO	yes*	yes*	yes*	NO	YES	no
Maine	yes	yes	yes*	YES	YES	YES	NO	yes	yes	YES	NO	YES	no
Maryland	yes	NO	yes*	yes	yes	no	yes*	yes*	yes	yes*	NO	YES	yes
Massachusetts	yes*	yes*	yes*	yes	yes*	YES	yes*	NO	yes	yes*	NO	YES	no
Michigan	yes	yes*	yes*	yes	yes	NO	NO	yes	yes	yes*	NO	yes	no
Minnesota	yes	NO	yes*	yes*	yes*	NO	NO	yes*	yes	yes*	NO	yes	yes
Mississippi	yes	yes	yes*	yes	yes	yes	yes	yes	yes	yes*	NO	YES	YES
Missouri	yes	NO	yes	yes	yes	yes	no	yes	yes	yes	NO	yes	yes
Montana	yes	NO	yes	yes	yes	NO	yes	yes	yes	yes	NO	yes	yes
Nebraska	yes	NO	NO	yes	yes	yes*	NO	yes	yes*	NO	NO	yes	yes
Nevada	yes	yes	yes*	YES	YES	YES	YES	YES	YES	yes*	NO	YES	YES
New Hampshire	yes	yes*	NO	YES	YES	no	no	yes*	YES	no	NO	YES	no
New Jersey	yes	yes	yes*	YES	YES	yes*	yes*	yes*	yes*	YES	NO	YES	yes*
New Mexico	yes	yes	yes*	yes	yes	yes*	NO	yes	no	yes*	no	YES	YES

State	Laws			Regulations									
	Weights and Measures Law	Weighmaster Law or Regulation	Uniform Fuel Law	Packaging and Labeling	Method of Sale	Price Verification	Unit Pricing	Registration of Service Agencies	Type Evaluation	Uniform Fuel Regulation	E-Commerce	Handbook 44	Handbook 133
New York	yes	yes	yes*	yes	yes	yes	yes*	NO	yes	yes*	NO	yes	yes
North Carolina	yes	yes*	yes*	YES	YES	yes	NO	yes	yes	yes*	NO	YES	YES
North Dakota	YES	NO	NO	NO	yes*	NO	NO	yes*	NO	yes*	NO	yes*	NO
Ohio	yes	NO	NO	yes	yes	YES	NO	yes	yes	NO	NO	yes	yes
Oklahoma	YES	NO	yes*	YES	YES	yes*	NO	yes*	YES	yes*	NO	YES	YES
Oregon	yes*	NO	yes*	yes	yes	yes	yes*	NO	yes*	yes*	NO	yes	yes
Pennsylvania	yes	yes	NO	yes	yes	yes	NO	yes	YES	NO	NO	YES	YES
Puerto Rico	yes	yes	yes	yes	yes*	yes*	yes*	yes	yes	yes	NO	YES	YES
Rhode Island	no	no	yes*	yes*	YES	no	yes*	NO	no	no	NO	YES	no
South Carolina	yes	yes*	yes*	YES	YES	NO	NO	YES	YES	yes*	NO	YES	YES
South Dakota	yes	NO	yes	yes	yes	yes	NO	yes	yes	yes	NO	yes	yes
Tennessee	yes	yes	yes	YES	YES	YES	NO	yes	YES	yes	NO	YES	YES
Texas	yes	yes*	yes*	YES	YES	yes*	NO	yes	NO	yes*	NO	YES	YES
Utah	yes	NO	yes*	YES	YES	YES	NO	yes	YES	yes	NO	YES	YES
Vermont	yes*	yes	yes*	YES	YES	yes	YES	yes	no	NO	NO	YES	yes
Virginia	yes*	yes*	yes*	YES	YES	YES	NO	yes*	YES	YES	NO	YES	YES
Virgin Islands	yes	NO	yes*	yes	NO	NO	yes	NO	NO	yes	NO	YES	no
Washington	yes	yes	yes	YES	YES	YES	NO	yes	YES	yes	NO	YES	YES
West Virginia	YES	NO	YES	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES
Wisconsin	yes*	NO	yes*	yes	yes	yes	NO	yes*	YES	yes*	NO	yes	yes
Wyoming	yes	NO	yes*	yes*	yes*	yes	no	yes	yes	yes*	NO	yes	yes
Totals													
YES	4	0	2	20	19	15	4	5	13	5	1	35	24
yes	40	20	8	28	26	18	4	25	29	12	0	17	20
yes*	8	11	38	4	6	9	11	15	5	30	0	1	1
NO	0	21	5	1	2	8	28	8	3	4	52	0	1
no	1	1	0	0	0	3	6	0	3	2	0	0	7
Key:													
YES	Adopted and updated on an annual basis.												
yes	Law or regulation in force, NCWM standard used as basis of adoption, but from an earlier year.												
yes*	Law or regulations in force, but not based on NCWM standard.												
NO	No law or regulation.												
no	No law or regulation, but NCWM standard is used as a guideline.												

Handbook 130 - 2025

II. Uniformity of Laws and Regulations

- Prevent deceptive and misleading practices, and fraud
- Should not be overly burdensome to business
- Fosters competition. Fair and level playing field.
- Flexible to adjust to new technology and marketing practices
- Ensures equity in the marketplace

Section 2. Systems of Weights and Measures

Section 3. Physical Standards

Section 4. Technical Requirements for Weighing and Measuring Devices [see Section 4. NOTE]

Section 5. Requirements for Packaging and Labeling [see Section 4. NOTE]

Section 6. Requirements for the Method of Sale of Commodities[see Section 4. NOTE]

Section 7. Requirements for Unit Pricing[see Section 4. NOTE]

Section 8. Requirements for the Registration of Servicepersons and Service Agencies for Commercial Weighing and Measuring Devices[see Section 4. NOTE]

Section 9. Requirements for Type Evaluation[see Section 4. NOTE]

Section 10. State Weights and Measures Division

Section 11. Powers and Duties of the Director

Section 12. Special Police Powers

Section 13. Powers and Duties of Local Officials

Section 14. Misrepresentation of Quantity

Section 15. Misrepresentation of Pricing

Section 16. Method of Sale

Section 17. Sale from Bulk

Section 18. Information Required on Packages

Section 19. Declarations of Unit Price on Random Weight Packages

Section 20. Advertising Packages for Sale

Section 21. Prohibited Acts

Section 22. Civil Penalties

22.1. Assessment of Penalties.

22.2. Administrative Hearing.

22.3. Collection of Penalties.

Section 23. Criminal Penalties

23.1. Misdemeanors.

23.2. Felonies.

Section 12. Special Police Powers



NIST Handbook 130 - Uniform Weights and Measures Law

Section 12. Special Police Powers



When necessary for the enforcement of this Act or regulations promulgated pursuant hereto, the Director is:

- a. Authorized to enter any commercial premises during normal business hours, except that in the event such premises are not open to the public, he/she shall first present his/her credentials and obtain consent before making entry thereto, unless a search warrant has previously been obtained.
- b. Empowered to issue stop use, hold, and removal orders with respect to any weights and measures commercially used; and issue stop sale, hold, and removal orders with respect to any packaged commodities or bulk commodities kept, offered, or exposed for sale.
- c. Empowered to seize, for use as evidence, without formal warrant, any incorrect or unapproved weight, measure, package, or commodity found to be used, retained, offered, or exposed for sale or sold in violation of the provisions of this Act or regulations promulgated pursuant thereto.

IV. Uniform Regulations

- A. Uniform Packaging and Labeling Regulation
- B. Uniform Regulation for the Method of Sale of Commodities
- C. Uniform Unit Pricing Regulation
- D. Uniform Regulation for the Voluntary Registration of Serviceperson and Service Agencies for Commercial Weighing and Measuring Devices
- E. Uniform Regulation for National Type Evaluation
- F. Uniform Fuels and Automotive Lubricants Regulation
- G. Uniform E-commerce Regulation

NIST Handbooks 44, 130 and 133

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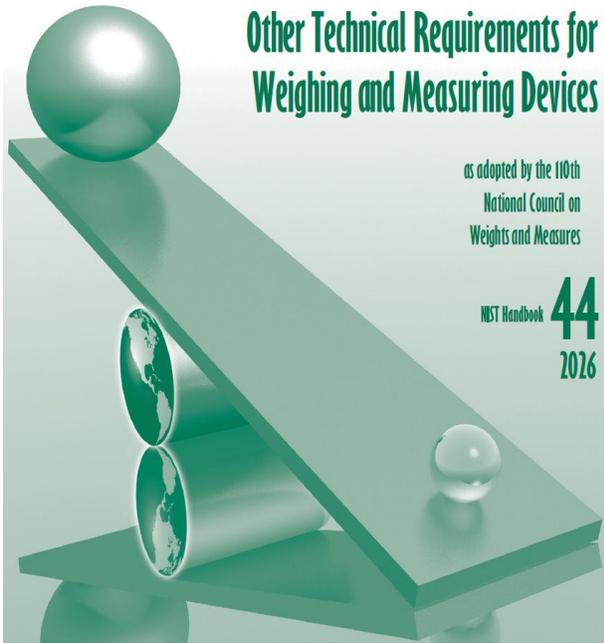


NIST OFFICE OF WEIGHTS AND MEASURES

Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices

as adopted by the 110th National Council on Weights and Measures

NIST Handbook **44**
2026

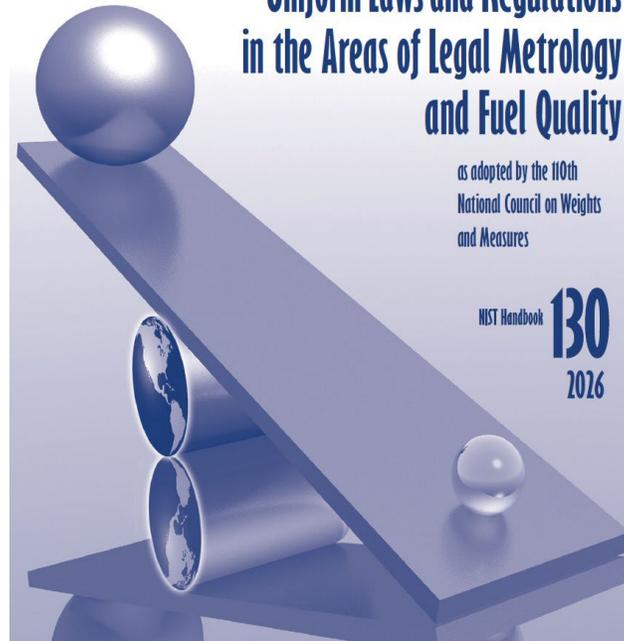


NIST OFFICE OF WEIGHTS AND MEASURES

Uniform Laws and Regulations in the Areas of Legal Metrology and Fuel Quality

as adopted by the 110th National Council on Weights and Measures

NIST Handbook **130**
2026

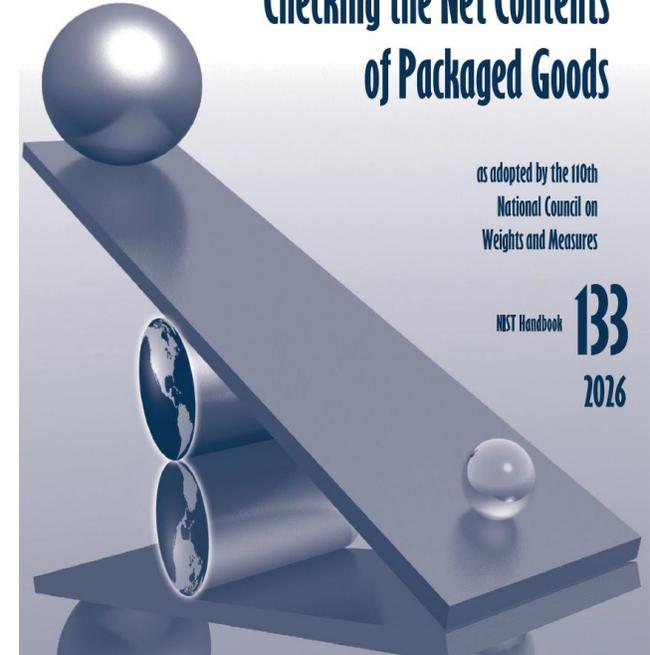


NIST OFFICE OF WEIGHTS AND MEASURES

Checking the Net Contents of Packaged Goods

as adopted by the 110th National Council on Weights and Measures

NIST Handbook **133**
2026



Regulatory Functions of a Weights and Measures Program (Element 3)



- Ensure the accuracy of commercial transactions
- Ensure that commercial weighing and measuring devices comply with legal metrology requirements
- Provide consumer protection
- Ensure fair competition among business
- Facilitate value comparison for consumers
- Facilitate commerce and international trade

Regulatory Functions of a Weights and Measures Program (Element 3)



- The scope of types of W&M oversight is enormous
- Must be efficient and effective
- Risk assessment. Best protection for business and consumers.
- Exists to reduce and eliminate fraud (intentional and unintentional)
- Each state has the authority to establish its own weights and measures requirements

Administrative Function of a Weights and Measures Program (Element 4)

- Budget
- Data Management
- Uniform Test Procedures and Enforcement
- Strategic Planning
- Program Management
 - ✓ Supervision and Training



Equipment Assessment

- Fundamental to any program
- Purchase or Borrow?
- Tool Chest Approach
- Standardized test forms



- Critical to ensure a successful program
- Should have a defined and well documented training program
- Training is not a one-time event
- Supervisors need to be engaged with staff
- Cannot deviate from established procedures
- Always increase knowledge and skills of inspector

- Ensures accuracy of measuring instruments and physical standards used by weights and measures officials and service companies
- Field standards should be calibrated as often as circumstances require or at the designated regular and defined calibration intervals as established
- Inspection results must be beyond a reasonable doubt
- Labs help ensure measurements are SI traceable through NIST calibration or services (or via another National Metrology Institute (NMI))



Registered Service Companies (Element 6)

- Registered Service Agents (RSAs) install and repair commercial weighing and measuring instruments
- Must be authorized by the state
- Use and agreements with RSAs vary by state
- Regulatory oversight still needs to occur to ensure RSAs are performing adequately



Types of Problems Reported with “Privatization” of Weights and Measures Services



- Service technicians are not adequately trained
- Falsified reports
- Specified test procedures not followed, abbreviated, or incomplete
- State inspectors find missing or broken seals during follow up inspections
- State inspectors find sealed devices are outside of tolerance limits during follow up inspections
- Service companies report that calibrations have been performed, but no adjustments have been made to the measuring instrument

- Records used to analyze compliance and used to justify the program
- Means of monitoring compliance in the marketplace
- State law usually will specify that records be kept of all official acts
- All reports and records should be decipherable with all pertinent details of the inspection
- No single system is recommended but should be computerized if possible
- Don't just record. Use the data (e.g., reports)!

Compliance (Element 8)

- Voluntary Compliance
- Enforcement
- Balanced Work Plan
- Marketplace Surveys



- Educate Industry
- Corporate level (champions) contacts
- Open door policy to contact you – provide answers regarding inspections– educate as to regulations
- Inform and educate whenever possible (not your job?)
- Root cause analysis
- Advocate vs. Adversary (to protect the business)
- Industry often welcomes oversight and enforcement. They see the value

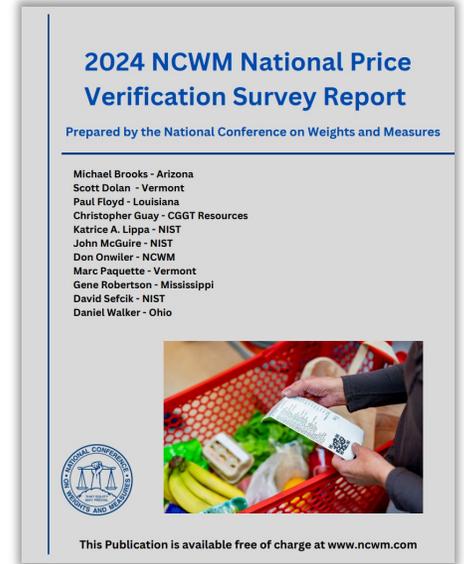
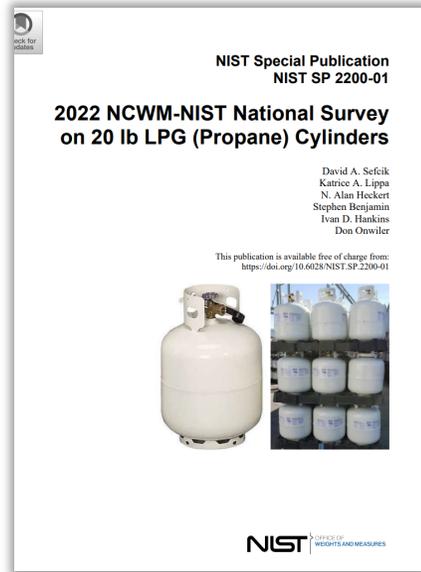
Examples of Enforcement Action

- Increased Inspection Frequency
- Warning Letter
- Citations
- Administrative Hearings
- Injunction
- Civil or Criminal Penalties
- Suspension from Government Contracts (if State or County vendor)

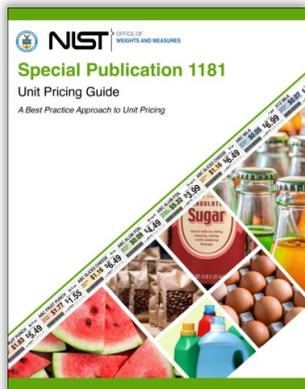


- 100% testing of measuring instruments annually
- Variable frequency
- Risk based inspection
- Delegation inspection responsibilities to private companies
- Using inspection results from private service companies
- Complaint Only
- *Witness Testing

Recent National Marketplace Surveys



“Shrinkflation” on many U.S. consumer’s radars...



Walmart Shopper Confronts Manager About The Incorrect Weight Of Meat And Films It For TikTok: 'They're Counting On People Not Noticing'

July 21, 2024 by FAITH GEIGER



Anonymous TikToker: "Call [your State] weights and measures, they don't [mess] around. They got the Aldi in my town last month. Over \$10K in fines."

Discussion/Questions?

Feel free to contact David Sefcik for more information.

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