PDHonline Course G150A (2 PDH)

Why Standards Matter

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WHY STANDARDS MATTER

Lesson 4 – Standards Protect Our Health, Safety & Environment

Topic: Lesson Overview

In this lesson, you will learn how standards protect your health, safety, and the environment.

- There are standards and regulations for health care, medical devices, food, drinking water, medicine and drugs;
- Standards for safety, such as building codes, and construction and design standards, protect our homes, plants, office and public buildings against fire, explosion, collapse, and equipment failure;
- Our chances of being injured in a motor vehicle accident are reduced by national standards for traffic signals, roadway lighting, and laminated safety glass;
- Safety standards for goggles and other eye and face safeguards, protect industrial workers against job hazards.

- There are environmental standards and regulations for air quality and emissions, water quality, ecosystems, pesticides, pollutants and toxins, management of waste and wastewater, and pollution prevention.

After you complete this section, you will be able to:
- Understand how standards protect your health;
- Understand the importance of safety standards;
- Understand why environmental standards are important
- Explain the difference between voluntary standards and mandatory regulations

Key Terms and Acronyms for this Section – You can find a complete list of terms and Acronyms in the Glossary for this course, but here are ones you will need to know for this section.

- Regulations
- Mandatory standard
- Industry standard
- Voluntary government standard
- Voluntary standard
- Consensus
- Accreditation
- International standards
- Regional standards
- National Institute of Standards and Technology (NIST)

Topic: You Are What You Eat - Food Safety Standards

Public concern over food safety has increased dramatically in the last five years. However, both mandatory and voluntary government and industry standards exist, alleviating problems caused by contaminated food and equipment used to process food.

At the federal government level, the Food and Drug Administration (FDA) and the U.S. Department of Agriculture (USDA) protect the safety and wholesomeness of food. The FDA's scientists test samples to see if any substances, such as pesticide residues, are present in unacceptable amounts. If contaminants are identified, they take corrective action. The FDA also sets labeling standards to help consumers know what is in the foods they buy.

The nation's food supply is protected in yet another way – the FDA makes sure that the medicated feeds and other drugs given to animals raised for food are not threatening to the consumers' health.

The USDA has developed mandatory standards for meat, livestock, poultry, eggs, fruits and vegetables, dairy products, and other agricultural products that are respected worldwide. Terms such as "USDA Choice" and "USDA Grade A" have meaning in international commerce and command premium prices for USDA-graded U.S. agricultural products.

In addition, USDA's Agricultural Marketing Service develops and maintains a host of voluntary quality and product description standards for use in commercial transactions - including standards for agricultural commodities as well as processed agricultural products.

Industry standards for food preparation, storage, and serving equipment are developed by NSF International. Underwriters Laboratories Inc. develops standards for the safety of equipment and appliances.

A word about organic foods - the USDA has put in place a set of national standards that food labeled "organic" must meet, whether it is grown in the United States or imported from other countries. After October 21, 2002, when you buy food labeled "organic" you can be sure that it was produced using the highest organic production and handling standards in the world.

Go to Organic Food Standards and Labels for more information.

Topic: Is the Doctor In? – Standards for Medical Devices

In the United States, the federal Center for Devices and Radiological Health (CDRH), of the Food and Drug Administration (FDA) is responsible for regulating medical devices and radiation-emitting products. Many industry standards address aspects of safety and/or effectiveness relevant to medical devices. Many of these standards have been developed with the participation of CDRH staff. In another example, bones are restored with the help of surgical implants and standards specify dimensions, tolerance, and finish.

The following are examples of organizations that develop industry standards that pertain to medical devices:

- Association for the Advancement of Medical Instrumentation (AAMI)
- Acoustical Society of America (ASA)
- ASTM International, Compressed Gas Association (CGA)
- National Electrical Manufacturers Association (NEMA)
- Underwriters Laboratories, Inc. (UL).

The American National Standards Institute (ANSI) coordinates issues related to national standards development efforts as well as U.S. involvement in the international and regional standards efforts in the technical area of medical devices such as those related cardiovascular surgery, neurosurgery, ophthalmology, orthopedics, and dentistry.

For more information about standards for medical devices, read the article, "Medical Devices, Health Care, and Consensus Standards" in the January 2001 issue of ASTM Standardization News.

Search the FDA "Recognized Consensus Standards Database" to find standards for medical devices. Here are a few examples to get you started. Type "cardiac" in the Title field of the search screen, then hit the search button to see a list of reference standards. Try the search with other terms, such as "bone" and "dental."

Topic: Environmental Protection – Government/Industry Partnerships

The public-private partnership in standards development is important to both the private sector and the federal government. Most standards are drafted by standard developing organizations, conforming to recognized procedures, and are for voluntary implementation. The government relies on these private sector voluntary standards. This partnership affects U.S. competitiveness, health, safety, and the environment.

What is the difference between a technical regulation and a standard?
A technical rule or regulation, like a standard, is a "specification" defining the characteristics and/or the performance requirements of a product, service, or process. Regulations are mandatory and their application is required in laws passed by government. Standards also describe the features of a product, process or service, but they are developed by a consensus process, and implementation is voluntary.

The following is a demonstration of how a government agency, the U.S. Environmental Protection Agency (EPA) and industry effectively work together to protect our air, water, and environment.

*Comments made by Stephen L. Johnson, EPA, at the **American National Standards Institute (ANSI) Environment Webcast: Opportunities for Industry, Regulators and Standards Developers in Environmental Protection** in celebration of Earth Day.   "What are the EPA's goals? Clean air, pure water, and better protection of the land. There are a number of ways to accomplish these goals. There are a number of ways to protect the environment. One way is through innovative approaches based on voluntary standards and partnerships that we can employ to achieve our goals. Voluntary standards play an important role at EPA…because they make sense.*

The government, EPA or any other regulatory agency, cannot and should not establish every standard imagined. In fact, we have found through voluntary approaches, and through ANSI leadership, that we see standards being developed that we can rely on, not in a prescriptive and burdensome way, but in a way that makes sense.

ANSI plays a valuable role through accreditation, the voluntary consensus process, representation in international standards development, and overall emphasis on increased consumer involvement."

Appointed by President Bush and confirmed by the Senate in June 2001, Stephen L. Johnson is assistant administrator of the Office of Prevention, Pesticides and Toxic Substances (OPPTS) at the U.S. Environmental Protection Agency (EPA). He is responsible for implementing the nation's pesticide, toxic substances and pollution prevention laws.

For more information on how environmental laws and regulations are created and enforced, go to the <u>U.S. Environmental Protection Agency</u> website Introduction to Laws and Regulations

Topic: Where's the Fire Exit? - Fire Safety and Escape Standards

Building codes reflect good practice in building design, construction and operation. Building codes cover all aspects of building design and construction, including structural integrity, mechanical and electrical system, sanitation and plumbing, and safety and fire prevention, and give special attention to aspects designed to protect lives in an emergency such as a fire. A major design consideration for engineers and architects is ensuring that the occupants of a building can be safely evacuated in the event of a fire. When a building code is adopted by a governmental unit, such as a state or city, the code, and the standards referenced in the code, become mandatory for design and construction in that jurisdiction.

New York City, NY, September 20, 2001 --
Rescue workers make their way out of the
site after working to clear debris.

Photo by Mike Rieger/ FEMA News Photo

Fire played a critical role in the collapse of the World Trade Center. The National Institute of Standards and Technology (NIST) is researching design practice and codes for design of tall buildings with respect to fire. According to Dr. Arden Bement, Director of NIST, NIST also proposes to develop guidance and retrofit technologies to enhance building escape in emergencies and improved models of occupant behavior and response to enhance evacuation and communication in emergencies.

As you can see, codes and standards affect all types of buildings – from skyscrapers to the addition on your house. When you seek a permit to remodel your home, you will find that your local building code will reference standards to ensure escape in the event of a residential fire.

Read the Introduction to Model Codes for more information about building codes.

Visit the NFPA site and read about the development of their new model building code.