

OTHER LAWS, REGULATIONS, STANDARDS, AND CODES

The federal government is not the only organization producing various forms of safety and health rules. State and local governments issue many such rules and standards. Companies produce rules for their own operation and products. Professional societies, associations, and laboratories develop rules and standards for adoption and use by others. Some work within consensus or voluntary standard-setting bodies. In addition, foreign governments and international organizations create safety and health rules and standards.

It is impossible to list all rule- and standard-making organizations and to keep up with their changes. This chapter includes only major organizations.

5-1 STATE GOVERNMENTS

State governments and their agencies issue many laws and regulations and have agencies assigned to enforce them. States may have agencies that enforce federal regulations. In fact, the 50 state legislatures passed roughly 250,000 laws during the 1970s, whereas the U.S. Congress enacted 3,359 laws during the same period.¹ Perhaps 10% of these at each level had to do with safety and health of the public, at least to some extent.

Federal Programs Administered by States

In an attempt to keep the federal bureaucracy from growing too large and to ensure local control, a number of federal laws encourage states to administer federal laws and regulations. Federal funds often defray administrative expenses. Examples are state-operated environmental protection agencies and occupational safety and health agencies. In many cases, states have not elected to establish agencies and have left enforcement with the federal government for their states.

State Laws and Regulations

States have their own laws and administering agencies for many aspects of safety and health. Some state laws and enforcing agencies were in effect before federal safety and health laws were created. Others appeared after federal laws were enacted. In some cases, federal laws and regulations supercede state laws and regulations, but not always. What laws and regulations apply can become quite complicated.

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To complicate matters, local governments may adopt ordinances that conflict or differ with state and federal laws and regulations. All may be applicable or those of higher governments may supercede local ones. Not only are the laws and regulations confusing, but the methods and procedures for compliance may be as well.

State Agencies and Regulations

Safety and health regulations commonly issued and administered by states are listed in Table 5-1. Most states have regulations dealing with life safety and structural safety of buildings and with safety in construction and industrial operations. Most regulate transportation, including vehicles, highways, and waterways. All states have regulations governing the licensing of occupations that can affect the public safety and health. Most have standards or codes for sanitary systems and fire protection.

Directories of state governments that list agencies and general responsibilities help identify sources for regulations or assistance. These directories are often called red books or blue books.

TABLE 5-1 An Incomplete List of Safety Laws and Regulations Commonly Issued or Adopted by State Governments

Building	Personal protective clothing and equipment
Building code	Proximity to high voltage lines
Guarding of floor and wall openings	Tank truck vehicles
Separation distances between structures	Welding and cutting equipment
Gasoline stations	Woodworking machines
Institutions, hospitals, schools	Fire safety regulations
Public assembly places	Blasting and explosives
Residences, hotels, apartments	Flammable liquids
Restaurants, dance halls	Hazardous materials
Theaters, movie houses	Housekeeping and maintenance of work areas
Fire-resistant construction	Health regulations
Emergency lighting	Air and water pollution control
Exits	Employee toilet, washroom, and eating facilities
Fire alarm systems	Lighting of work areas
Fire extinguishers	Radiation control
Sprinklers and other fire protection equipment	Exposure to chemical and physical agents
Flame retardant finishes and materials	Ventilation and dust control
Electrical code	Right-to-know/hazards communication
Access for the disabled	Industry safety codes
Construction regulations	Mining of coal, metals, and other materials
Asbestos removal	Dry cleaning and dyeing
Demolition work	Liquified petroleum gas
Excavation work	Petroleum refining, handling, storage, and transport
Material hoists	Railroads and grade crossings
Steel erection	Licensing and qualifications of occupations
Storage of construction materials	Boiler inspectors
Temporary electrical wiring	Engineers
Equipment and machinery regulations	Health-related professions
Boilers	Mine inspectors
Elevators, dumbwaiters, escalators	Field safety representatives for workers'
Ladders	compensation insurance companies
Mechanical power transmission apparatus	Safety professionals and industrial hygienists
Painting and spraying equipment	

Local Governments

Most villages, cities, and counties have safety and health laws of some kind. Frequently, local governments adopt national standards or portions of them as part of local ordinances. Typical laws and codes at the local level that address safety and health issues include zoning codes, building codes, fire codes, plumbing and sewer codes, and traffic codes. Major cities commonly have regulations and codes that are unique.

5-2 PRIVATE COMPANIES

Most companies have rules about safety and health for employees, customers, products, and use of equipment. These may take several forms: policy statements, rule books, operating procedures and manuals, assembly or maintenance manuals, agreements with unions, contracts, or agreements with suppliers and buyers. These rules may deal with employee activities or they may deal with procedures for certain kinds of work, such as procurement, selection and training of workers, settling of grievances, or operation of particular equipment. There may be handbooks or reference manuals for design that include specific safety information. Special rules may exist for fire, transportation, weather, and other emergencies. Publications may be guides for customers or users.

5-3 VOLUNTARY AND CONSENSUS STANDARDS

There are many nongovernment organizations, like professional societies, trade associations, and others, that develop and publish standards for their field of interest. A few organizations specialize in creation and publication of standards.

Committees of individuals create or update standards that are of interest to companies or organizations who send committee members. Sponsoring organizations are usually members of the organization that will publish a standard. Several organizations may publish the same standard. There have been some challenges to voluntary standards, particularly when the participants on the committees have the interest of their own companies or products in mind and there is no open participation by the public. Challenges also relate to prescribing requirements in the standards that only participating product manufacturers can meet.

Because membership in the organizations that set the standards is voluntary and because compliance is often voluntary, standards created or published by most standards organizations are called *voluntary standards*. Because the standards include those elements that at least a majority of committee members can agree on, the standards are also called *consensus standards*. Compliance with voluntary and consensus standards is required when they are adopted by local, state, or federal governments or are incorporated into government agency regulations or contracts.

The Internet, computer data banks, index services, CD-ROMs, and printed directories help locate voluntary and consensus standards.

Standard and Code Organizations

Two of the largest and best-known voluntary standards organizations are the American National Standards Institute (ANSI) and the American Society for Testing and Materials (ASTM). (ANSI was originally called the American Standards Association. Before its

current name, ANSI was named the United States of America Standards Institute and, for a brief period, the American Standards Institute.) Both ANSI and ASTM publish standards on a wide range of topics, including safety and health. ANSI does not endorse the content, but merely provides a format, development and administrative procedures, and publishing services. Volunteer committees establish the contents.

Professional Societies

Many professional societies have developed standards on matters related to their fields. Some of these are listed and distributed by ANSI and ASTM. Others, like the American Society of Mechanical Engineers and the Society of Automotive Engineers publish their own standards. Some societies serve as secretariates for certain standards that are published by organizations like ANSI. Table 5-2 lists many professional and technical societies that develop voluntary safety and health standards.

Associations

Associations generally promote the common interest of members. Many associations exist for a wide range of fields and interests. Some associations develop standards for products or operating procedures, and some of these standards address safety and health topics. For example, the National Fire Protection Association (NFPA) publishes the *National Fire Code*. The Association of Truck Trailer Manufacturers publishes standards on the design of ladders and climbing devices for tank trailers. Directories list associations and data about them. The directories help locate possible sources of standards but do not identify which associations write safety standards.

TABLE 5-2 An Incomplete List of Professional and Technical Societies That Have Developed Voluntary Standards and Codes

ACI	American Concrete Institute
ACGIH	American Conference of Government Industrial Hygienists
AIHA	American Industrial Hygiene Association
AISI	American Iron and Steel Institute
ANS	American Nuclear Society
API	American Petroleum Institute
ARI	Air Conditioning and Refrigeration Institute
ASA	Acoustical Society of America
ASAE	American Society of Agricultural Engineers
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASQC	American Society of Quality Control
ASSE	American Society of Safety Engineers
AWS	American Welding Society
IEEE	Institute of Electrical and Electronics Engineers
IES	Illuminating Engineering Society
ISA	The Instrumentation, Systems, and Automation Society
ITE	Institute of Traffic Engineers
SAE	Society of Automotive Engineers
SOLE	Society of Logistics Engineering

5-4 PRIVATE LABORATORIES

A number of private laboratories exist to provide independent testing, certification, and other technical services to customers for a fee. Some laboratories were created to support the needs of the insurance industry. Two of the most well-known independent laboratories are the Underwriters Laboratory (UL) and the Factory Mutual System (FM). Both have written some safety standards relating to testing procedures and products tested.

Underwriters Laboratory Incorporated is a nonprofit organization that conducts scientific investigations, studies, experiments, and tests related to hazards of life and property. As part of its function, it publishes standards, classifications, and specifications aimed at reducing hazards.

Factory Mutual System is devoted to control of losses from industrial fires, explosions, and related calamities. It provides inspection services for clients, conducts studies and tests, and produces some standards related to fire protection systems. It tests fire protection devices against its standards for the manufacturers of the devices.

5-5 FOREIGN AND INTERNATIONAL LAWS AND REGULATIONS

Foreign governments and organizations issue laws, regulations, and standards for safety and health. They may impact companies doing business or selling products where they have jurisdiction. At least for some European countries, one can locate regulations and publications related to them through computer data banks and the Internet.

One international organization that has a high rate of growth in standards is the International Organization for Standardization (ISO). It has member organizations throughout the world. Its member organization from the United States is ANSI. ISO may adopt standards proposed by member organizations.

With the implementation of the European Community (EC) during the 1990s, standards for the EC have emerged. They apply to member countries and companies doing business within the EC. For example, companies manufacturing and selling production machines in the EC must follow EC standards for machine safety and must complete risk analyses on the machines being sold. Sellers must inform buyers of risks that remain with the machines and what protection is provided or is left for users.

EXERCISES

1. Determine if ANSI or ASTM has safety standards for
 - (a) stepladders
 - (b) floor slipperiness
 - (c) sports equipment
 - (d) glass for doors and windows
2. Determine if your state has any of the following:
 - (a) fire code
 - (b) ventilation code
 - (c) plumbing code
 - (d) construction safety regulations

- (e) regulations for asbestos removal projects
 - (f) regulations for cleanup of contaminated soil
3. Find out what agency in your state is responsible for each of the items in Exercise 2.
 4. Determine if your local government has a building code, fire code, zoning ordinance, or waste disposal ordinance. Obtain a copy of each and identify which provisions are safety related. Find out how the ordinances and codes are enforced.
 5. Skylights in roofs allow daylight to enter interior portions of buildings. When workers are on a roof, a skylight can become a working surface on which people may stand, walk, or set things. Find organizations that may produce standards for skylights and determine what safety considerations are included in skylight design, placement, installation, or maintenance.
 6. Identify organizations that write standards for indoor air quality.
 7. Determine the difference between the Committee Method and the Canvas Method when developing an ANSI standard.
 8. Locate major sources of international standards for occupational safety and health.

REVIEW QUESTIONS

1. Where would one look to determine what agencies in a state are responsible for promulgating and/or enforcing fire codes, occupational safety and health standards, and traffic codes?
2. What forms do safety rules and regulations usually take in a company?
3. How would one find associations that may have developed safety and health standards?
4. Name two major organizations that publish voluntary standards, including safety standards.
5. Name two major safety testing laboratories.
6. Describe the process usually used to develop voluntary standards.

NOTE

1 John Naisbitt, *Megatrends*, Warner Books, New York, 1982.

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