

## INTRODUCTION TO OSHA STANDARDS

The purpose of this discussion is to provide you with the information you will need in order to apply the OSHA standards to hazards in the workplace.

### ORIGIN OF OSHA STANDARDS

Before we proceed, let us take a brief look at the origin of the OSHA standards. Initially, the OSHA standards were taken from three sources: consensus standards, proprietary standards, and federal laws in effect when the Occupational Safety and Health Act became law.

Consensus standards are developed by industry-wide standard-developing organizations and are discussed and substantially agreed upon through consensus by industry. OSHA has incorporated the standards of the two primary standards groups, the American National Standards Institute (ANSI) and the National Fire Protection Association (NFPA), into its set of standards.

An example, ANSI Standard Z-41.1-1967, *Standard for Men's Safety-Toe Footwear*, was the source for Part 1926, Section 96. It covers the safety requirements and specifications of men's safety shoes.

Another consensus standard source was the NFPA standards. NFPA No. 30-1969, *Flammable and Combustible Liquids Code*, was the source standard for Part 1910, Section 106. It covers the storage and use of flammable and combustible liquids with flash points below 200° F.

Proprietary standards are prepared by professional experts within specific industries, professional societies, and associations. The proprietary standards are determined by a straight membership vote, not by consensus. An example of these would be the Compressed Gas Association, Pamphlet P-1, *Safe Handling of Compressed Gases in Containers*. This proprietary standard covers requirements for safe handling, storage and use of compressed gas cylinders.

Some preexisting federal laws are enforced by OSHA, including the Federal Supply Contracts Act (Walsh-Healey); the Federal Service Contracts Act (McNamara-O'Hara); the Contract Work Hours and Safety Standards Act (Construction Safety Act); and the National Foundation on the Arts and Humanities Act. Standards issued under these Acts are now enforced in all industries where they apply.

### **HORIZONTAL AND VERTICAL STANDARDS**

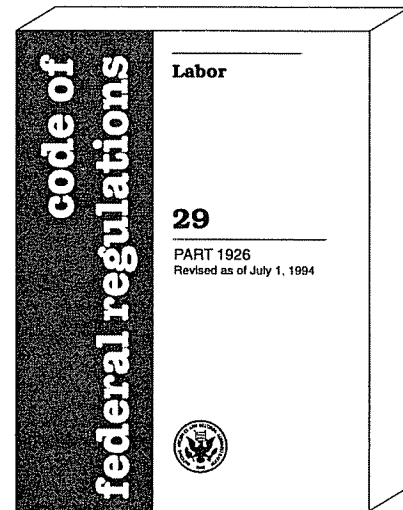
Standards are sometimes referred to as being either "horizontal or "vertical" in their application. Most standards are horizontal or "general," which means they apply to any employer in any industry. Standards relating to fire protection, working surfaces and first aid are examples of horizontal standards.

Some standards, though, are relevant only to a particular industry, and are called vertical, or "particular" standards. Examples are standards applying to the longshoring industry or the construction industry, and to the special industries covered in Subpart R of 1910.

## CODE OF FEDERAL REGULATIONS

Probably one of the most common complaints from people having to use the Part 1926 standards is "how do you wade through hundreds of pages of standards and make sense out of them?" From time to time you may have experienced this frustration and been tempted to throw the standards in the "round file."

One of our many goals at the OSHA Training Institute is not only to teach hazard recognition but also to develop an understanding by the student of the Code of Federal Regulations system, the format to which the standards are written, and a simplified color coding method for using the code. These aids take a lot of the "fog" out of the standards and make them much easier to comprehend and use.



The Code of Federal Regulations is a codification of the general and permanent rules published in the Federal Register by the Executive departments and agencies of the Federal Government. The Code is divided into 50 titles which represent broad areas subject to Federal regulation. Each title is divided into chapters which usually bear the name of the issuing agency. Each chapter is further subdivided into parts covering specific regulatory areas. Based on this breakdown, the Occupational Safety and Health Administration is designated Title 29-Labor, Chapter XVII.

Each volume of the Code is revised at least once each calendar year and issued on a quarterly basis approximately as follows:

|                           |       |                 |
|---------------------------|-------|-----------------|
| Title 1 through Title 16  | ..... | as of January 1 |
| Title 17 through Title 27 | ..... | as of April 1   |
| Title 28 through Title 41 | ..... | as of July 1    |
| Title 42 through Title 50 | ..... | as of October 1 |

OSHA's regulations (Title 29) are therefore issued as of July 1. The approximate revision date is printed on the cover of each volume.

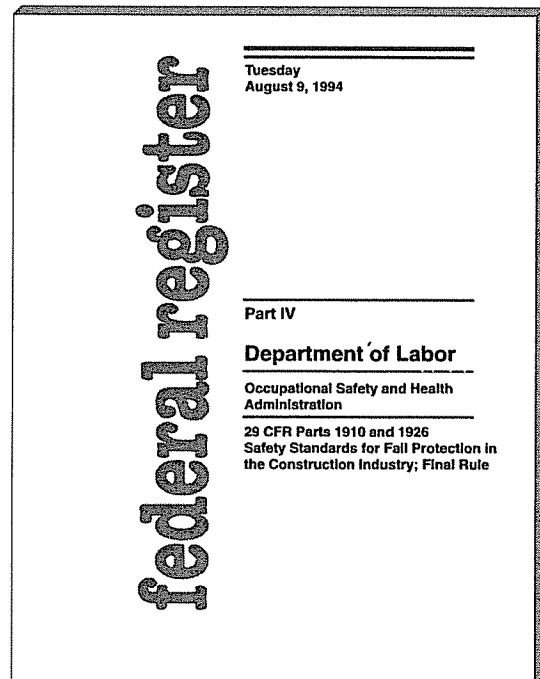
The Code of Federal Regulations is kept up to date by the individual issues of the *Federal Register*. These two publications (the CFR and the *Federal Register*) must be used together to determine the latest version of any given rule.

To determine whether there have been any amendments since the revision date of the Code volume in which the user is interested, the following two lists must be consulted: the "Cumulative List of CFR Sections Affected" issued monthly and the "Cumulative List of Parts Affected" which appears daily in the *Federal Register*. These two lists will refer you to the *Federal Register* page where you may find the latest amendment of any given rule.

The pages in the *Federal Register* are numbered sequentially from January 1 to January 1 of the next year.

We have discussed the fact that under Title 29, Chapter XVII is set aside for the Occupational Safety and Health Administration. Under Chapter XVII, the regulations are broken down into Parts. Part 1926, for example, is the standard you are all familiar with, "Occupational Safety and Health Standards," commonly known as the "Construction Standards." Under each part, such as Part 1926, major blocks of information are broken down into Subparts. The major Subparts in the 1926 standards include:

- Subpart D - Occupational Health and Environmental Controls
- Subpart E - Personal Protective and Life Saving Equipment
- Subpart F - Fire Protection and Prevention
- Subpart G - Signs, Signals and Barricades



- Subpart H - Materials Handling, Storage, Use, and Disposal
- Subpart I - Tools - Hand and Power
- Subpart J - Welding and Cutting
- Subpart K - Electrical
- Subpart L - Scaffolding
- Subpart M - Floor and Wall Openings
- Subpart N - Cranes, Derricks, Hoists, Elevators and Conveyors
- Subpart O - Motor Vehicles, Mechanized Equipment and Marine Operations
- Subpart P - Excavations
- Subpart Q - Concrete and Masonry Construction
- Subpart R - Steel Erection
- Subpart S - Underground Construction, Caissons, Cofferdams and Compressed Air
- Subpart Z - Stairways and Ladders

Each Subpart is further broken down into sections.

Let's look at one subpart in detail: Subpart E - Personal Protective and Life Saving Equipment. The index of Subpart E is shown below.

| <b>SUBPART E - PERSONAL PROTECTIVE AND LIFE SAVING EQUIPMENT</b> |   |
|--|---|
| 1926.95  | Criteria for personal protective equipment. |
| 1926.96  | Occupational foot protection.               |
| 1926.97  | Protective clothing for fire brigades.      |
| 1926.98  | Respiratory protection for fire brigades.   |
| 1926.100   | Head protection.                            |
| 1926.101   | Hearing protection.                         |
| 1926.102   | Eye and Face protection.                    |
| 1926.103   | Respiratory protection.                     |
| 1926.104   | Safety belts, lifelines and lanyards.       |
| 1926.105   | Safety nets.                                |
| 1926.106   | Working over or near water.                 |
| 1926.107   | Definitions applicable to this subpart.     |

## PARAGRAPH NUMBERING SYSTEM

We have now become familiar with some of the basic organization of a construction standard. Let's review some of the terminology we have discussed and relate it to the paragraph numbering system in the *Federal Register*. We'll use an example from Section 405 of the 1926 standards.

# 29 CFR 1926.405(j)(4)(ii)(C)(1)

The controller disconnecting means shall be capable of being locked in the open position.

| <u>Title</u> | <u>Code of<br/>Fed. Reg.</u> | <u>Part</u> | <u>Section</u> |
|--------------|------------------------------|-------------|----------------|
| 29           | CFR                          | 1926        | .405           |

As you can see from this example, the first number 29 stands for the title. Next we have CFR which of course stands for Code of Federal Regulations. Next we have 1926 which is Part 1926. Next you see a period. Following that is an arabic number which will always be the section number, in this case Section 405 for Wiring methods, components, and equipment for general use (Subpart K - Electrical).

## 29 CFR 1926.405(j)(4)(ii)(C)(1)

The controller disconnecting means shall be capable of being locked in the open position.

| <u>Title</u> | <u>Code of Fed. Reg.</u> | <u>Part</u> | <u>Section</u> |     |
|--------------|--------------------------|-------------|----------------|-----|
| 29           | CFR                      | 1926        | .405           | (j) |

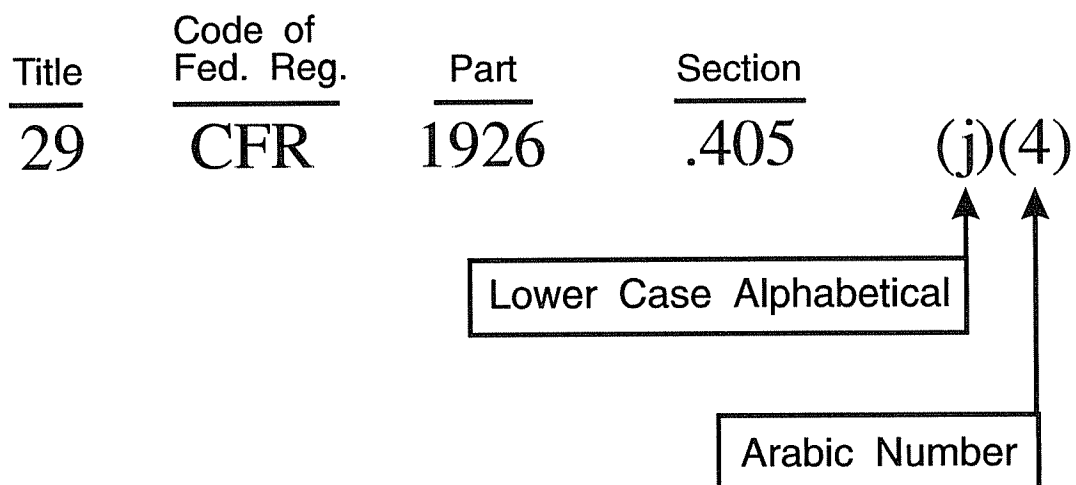
Lower Case Alphabetical

Now, let's go to the next breakdown of paragraphs and study the numbering system. As you can see, the first tier of paragraphs beneath the section level will be numbered in parentheses (a), (b), (c), (d), etc. as will all further designations, so that if you only had three major paragraphs of information under a section, they would be numbered 405(a), 405(b), 405(c).



## 29 CFR 1926.405(j)(4)(ii)(C)(1)

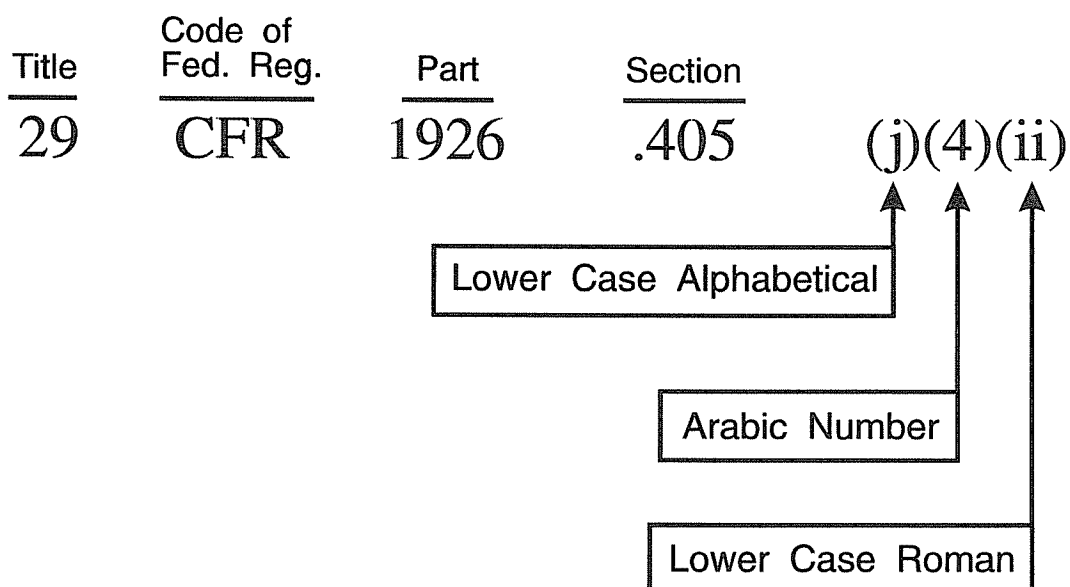
The controller disconnecting means shall be capable of being locked in the open position.



The next level of numbering involves the use of arabic numbers. As an illustration, if there were three paragraphs of information between subheadings (a) and (b), they would be numbered (a)(1), (a)(2), and (a)(3).

## 29 CFR 1926.405(j)(4)(ii)(C)(1)

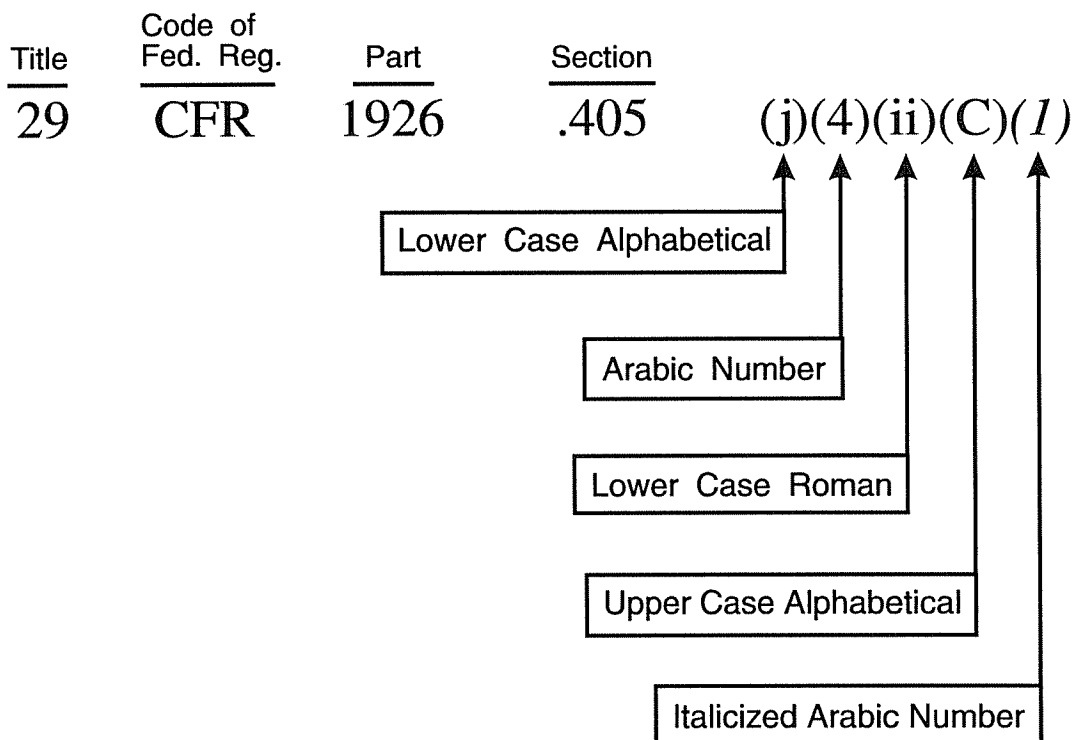
The controller disconnecting means shall be capable of being locked in the open position.



The next level uses the lower case roman numeral. An example would be between paragraphs (2) and (3). If there were five paragraphs of information pertaining to arabic (2) they would be numbered (2)(i), (2)(ii), (2)(iii), (2)(iv), and (2)(v).

## 29 CFR 1926.405(j)(4)(ii)(C)(1)

The controller disconnecting means shall be capable of being locked in the open position.



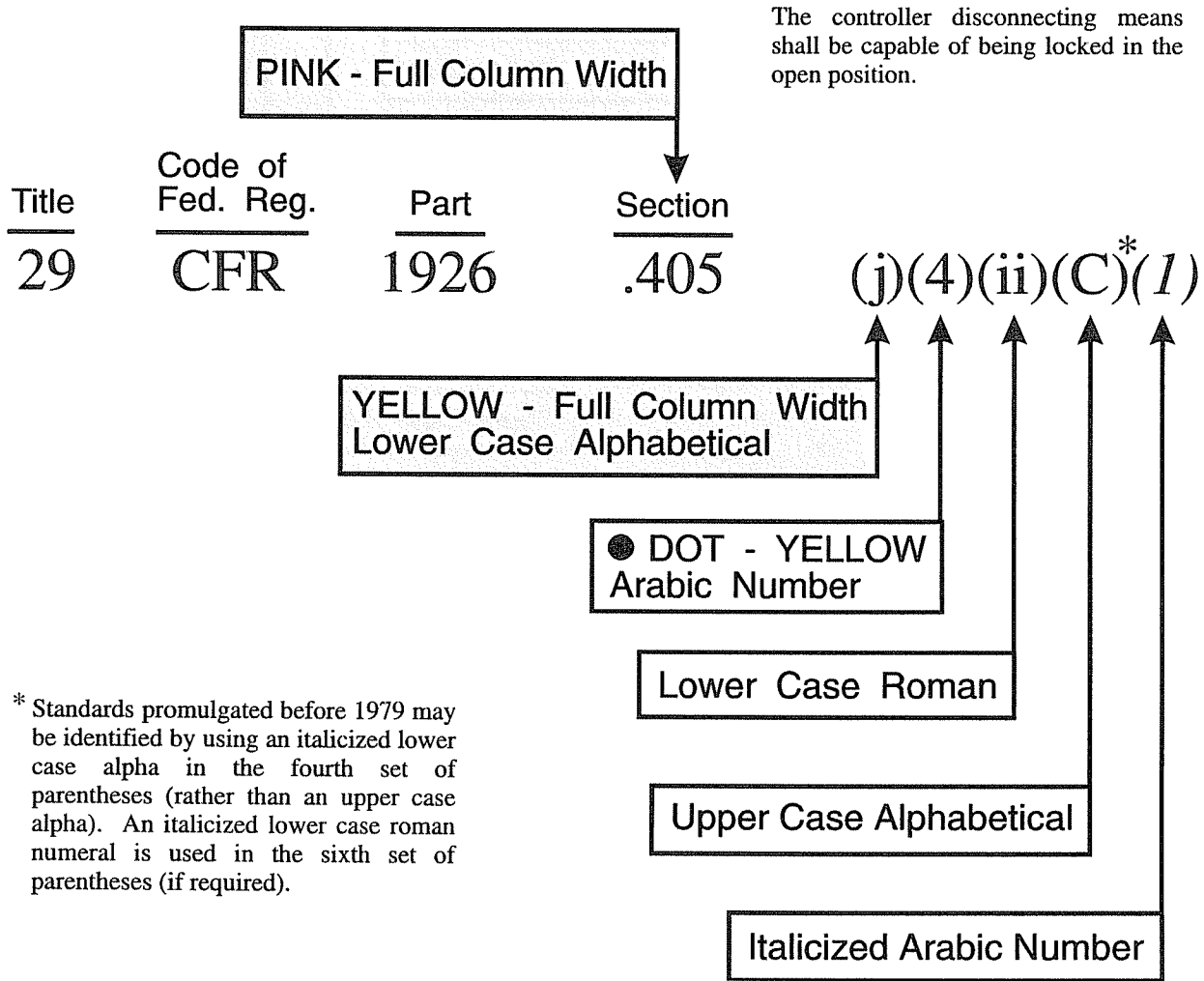
The remainder of the paragraph numbering sequence consists of an upper case alpha in the fourth set of parentheses, followed by an italicized arabic number and (if required) an italicized lower case roman numeral.

It should be mentioned that standards promulgated before 1979 may be identified by using an italicized lower case alpha in the fourth set of parentheses (rather than an upper case alpha).

COLOR CODING

Now let's see what we can do to simplify the use of the standards. It is suggested that one thing you can do is color code your standards book. Although there are many ways to do this, we will suggest the method shown below.

29 CFR 1926.405(j)(4)(ii)(C)(1)



\* Standards promulgated before 1979 may be identified by using an italicized lower case alpha in the fourth set of parentheses (rather than an upper case alpha). An italicized lower case roman numeral is used in the sixth set of parentheses (if required).

It is suggested that you highlight every section head full column width in pink.

All of the subsection headings, that is the (a), (b), (c), etc., should be colored with yellow full column width. At this point the purpose of color coding becomes more apparent when you realize an arabic "1" in typeset looks exactly like the lower case alpha letter "l," and it is obviously important to differentiate between them. Another case is the lower case alpha (i) which is the same typeset as lower case roman numeral (i). I'm sure that you can realize the value of this color coding. The next step is to dot yellow all of the arabic numbers. We can now easily find the beginning of each subsection beginning with a lower case alpha by looking for the horizontal yellow lines. The arabic number subparagraphs are easily located by the yellow dots. Generally speaking, color coding two levels below the section heading will be adequate. There are some sections where you may want to inject a third color code for the lower case roman.

In summation, you are now prepared to color code those particular sections of the standards which you use frequently. It should also be pointed out that there is a subject index in the back of the standards book. This index can be very helpful to locate specific standards when you pick out a key word from any given hazard description.

If you try to locate information within the standards by using the Table of Contents, remember that the particular Section number contained on each page is printed in the upper corners of that page.

We hope that this information will help you in taking the "fog" out of these standards and also assist you in helping others to understand and better utilize the Occupational Safety and Health Standards.



## SETTING OCCUPATIONAL SAFETY AND HEALTH STANDARDS

The Occupational Safety and Health Act of 1970 authorizes the Secretary of Labor through the Occupational Safety and Health Administration (OSHA) "to set mandatory occupational safety and health standards applicable to businesses affecting interstate commerce" through public rulemaking.

OSHA safety standards are designed to reduce on-the-job injuries; health standards to limit workers' risk of developing occupational disease. Most OSHA standards are horizontal - they cover hazards which exist in a wide variety of industries. These are compiled as the OSHA General Industry Standards. Vertical standards apply solely to one industry. OSHA has promulgated vertical standards for the construction, agriculture, and maritime sectors. Some general industry standards apply to construction, agriculture, and maritime as well.

*Getting Started.* The impetus to develop a new safety or health standard can come from a variety of sources: OSHA's own initiative; the U.S. Congress; information from the Department of Health and Human Services' National Institute for Occupational Safety and Health (NIOSH); Environmental Protection Agency's Toxic Substances Control Act (TOSCA) referral; public petitions; or requests from OSHA advisory committees.

*Standard Setting Process.* Standard setting may begin with publication in the Federal Register of a request for information (RFI), an advance notice of proposed rulemaking (ANPRM), or a notice of proposed rulemaking (NPRM). Through an RFI or an ANPRM, OSHA seeks information to determine the extent of a particular hazard(s), currently used and potential protective measures, and costs and benefits of various protective strategies.

OSHA has also sought to begin work on new standards by developing consensus through negotiated rulemaking. The agency forms an advisory committee representing the interest groups affected including industry and labor which meets to hammer out an agreement serving as the basis for a proposed rule. The process is intended to shorten the rulemaking timetable and discourage legal challenges to the final standard while at the same time providing for full public comment on the issue.

Information gathered in any of these ways and/or other available information such as injury and fatality data is used to develop a proposal. Sometimes OSHA circulates early drafts of proposals for informal comment from affected interest groups. Formal proposals are published in the Federal Register with a public comment period usually over the next 60 to 90 days which occasionally may be extended at the request of interested parties.

Commentors may also request a public hearing on a proposal. Public hearings are presided over by a Department of Labor administrative law judge who certifies the record after all data are received, though decisions affecting the final standard are made by OSHA as the agent of the Secretary of Labor. Hearings are followed by post-hearing comment periods - usually 30 or more days.

OSHA uses all of this information to prepare and publish in the Federal Register a final standard or a determination that no standard is needed. Standards take effect in 90 days or less, although some provisions such as requirements for detailed programs or engineering controls may be phased in over a longer period. OSHA final standards may be challenged in the appropriate U.S. Circuit Court of Appeals by adversely affected parties.

*Special Requirements for Health Standards.* Based on Supreme Court decisions and a Presidential Executive Order, OSHA follows a four-step process for developing occupational health standards. First, the agency must demonstrate that a particular hazard poses a significant risk to worker health. Second, the agency must show that an OSHA standard would eliminate or substantially reduce that risk. Then the agency selects the most protective exposure limit that is economically and technologically feasible. Finally, the agency looks for the most cost-effective ways for employers to meet the exposure limit.

*Standards Priorities.* The Department of Labor publishes in the Federal Register a semiannual agenda of the standards being actively worked on, including target dates. The agenda usually appears in April and October and covers regulatory activity anticipated for a one-year period.

*Special Standards.* During its first two years, OSHA was authorized by the act to promulgate national consensus standards and other federal standards as OSHA standards. Where standards differed, the Act required OSHA to choose the most protective. National consensus standards came from voluntary standards developed by such groups as the American National Standards Institute and the National Fire Protection Association. Many OSHA safety standards were adopted in this way. Safety and health standards were adopted from the Walsh-Healey Act standards.

OSHA also has the authority to promulgate emergency temporary standards when it determines that workers are exposed to "grave danger" from toxic substances or physical conditions and could be protected by an OSHA standard. During the six-month life of an emergency temporary standard, OSHA is charged with developing a permanent standard to protect employees. The emergency temporary standard remains in effect until superseded by a permanent standard.

*State Standards.* States are encouraged to establish and maintain their own job safety and health programs subject to Federal approval. State-plan states' standards must be "at least as effective" as the federal standards, with comparable state standards to be issued within



six months after new OSHA standards are published in the Federal Register. States also can develop standards covering areas or issues not regulated by federal OSHA. These state standards, when applicable to products distributed or used in interstate commerce, must be "required by compelling local conditions" and not "unduly burden interstate commerce."

*Variances.* The Act also provides, through the "variance" procedure, an alternative to compliance with specific requirements of an OSHA standard. A permanent variance may be granted to an applicant (employer) who can demonstrate to OSHA's satisfaction that the proposed alternative (condition, method, practice, or the like) will provide an employee environment as safe and healthful as that which would be afforded by compliance with the standard. The Agency may also grant a temporary variance to an applicant who can demonstrate to OSHA that additional time will be needed to comply with a newly promulgated standard beyond the effective date.

*Keeping Track of OSHA Standards.* Notices of OSHA standard setting activities are published in the Federal Register. All OSHA standards are available in the 29 Code of Federal Regulation as well as on a compact disk with read only memory (CD-ROM) for paying subscribers. Standards interpretations, directives, documents, the OSHA Field Operations Manual, chemical sampling information, the OSHA Technical Manual, Federal Register index, hazard information bulletins, congressional testimony, memoranda of understanding with other agencies, corporate-wide settlement agreements, library catalog, and other program information maintained on the OSHA Computerized Information System (OCIS) also are on the disk.

The subscription is \$88.00 for the service with three quarterly updates. A single disk is available for \$28.00. Visa or MasterCard number along with expiration date or a check made payable to Superintendent of Documents may be used to order the service (order number 729-013-00000-5).

The disk may be ordered from the Superintendent of Documents, Government Printing Office (GPO), Washington, D.C. 20402-9352; telephone 202-783-3238; fax 202-275-0019, or purchased from a local GPO Bookstore. See the government listing in the telephone directory for GPO's local address.

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This is one of a series of fact sheets highlighting U.S. Department of Labor programs. It is intended as a general description only and does not carry the force of legal opinion.

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# U.S. Department of Labor Program Highlights



Fact Sheet No. OSHA 92-13

## OSHA's FULL SERVICE AREA OFFICES

Local offices of the Occupational Safety and Health Administration (OSHA) carry out a balanced mix of programs -- enforcement, state programs, voluntary compliance programs, and training and education.

The agency encourages communities to call upon OSHA and its staff for a variety of services and technical assistance aimed at promoting safe and healthful working conditions.

For example, OSHA safety and health personnel are available to speak at civic clubs, union meetings, and trade association gatherings. When appropriate, OSHA field offices will issue news releases at the local level and brief newspaper and broadcast reporters. These outreach efforts are designed to explain new OSHA standards, encourage participation in OSHA rulemakings and answer questions about the agency's approach to workplace safety and health. These are also ways the agency can promote strong workplace safety and health programs and alert employers and employees to training courses available through the OSHA Training Institute. As with the enforcement programs, OSHA targets its outreach efforts on high hazard industries.

The OSHA compliance staff is also familiar with the work of other federal and state agencies and professional safety and health organizations. Thus, they can refer callers to other sources of help such as the National Institute for Occupational Safety and Health, the Environmental Protection Agency, or the Employment Standards Administration.

OSHA also shares, to the extent possible, technical equipment and materials. Lists of equipment

and materials which can be borrowed or reviewed within the OSHA office are available at each area office and also at each closing conference following an inspection.

Local OSHA offices can also provide prepackaged training programs to unions or trade groups, or hold brief training sessions in the office conference room. If intensive training is needed, the staff will refer inquirers to the OSHA Training Institute to an OSHA-approved educational center. Other sources for training and education may include OSHA grantees who have developed programs with OSHA's financial assistance.

Other topics for high-hazard small business include OSHA's free consultation program; voluntary protection programs: Star, Merit, and Demonstration; off-site employer abatement assistance; onsite consultation for federal agencies; and safety and health program assistance.

In short, although OSHA continues to conduct inspections, the agency now offers additional services at its area offices. By broadening the scope of its service, OSHA expects to better assist employers and employees in preventing occupational injury and illness.

Reducing workplace accidents and disease remains the agency's primary goal. Expanded outreach, referrals, training and education, and voluntary compliance will enable the agency to work more effectively with employers, employees, and the general public to achieve that goal.

This is one of a series of fact sheets highlighting U.S. Department of Labor programs. It is intended as a general description only and does not carry the force of legal opinion. This information will be made available to sensory impaired individuals upon request. Voice phone: (202) 523-8151. TDD message referral phone: 1-800-326-2577.



# U.S. Department of Labor Program Highlights



Fact Sheet No. OSHA 91-44

## OSHA EMERGENCY HOT LINE

- 1-800-321-OSHA
- Free Hot Line for reporting LIFE-THREATENING WORKPLACE HAZARDS
- 24-Hour Emergency Service

The Occupational Safety and Health Administration (OSHA) provides a free hot line for reporting workplace safety or health emergencies. The service provides a 24-hour point of contact so that those who want to notify OSHA as soon as possible of imminent dangers on the job can do so.

Two kinds of service—effective October 21, 1991,—will assist callers to the OSHA hot line. The type of service will depend upon the time of the initiating call.

### Daytime Calls

For telephone calls received during normal working hours—between the hours of 8 a.m. and 4:30 p.m. local time Monday through Friday—the answering operator requests the callers' name (optional), a daytime telephone number (also optional), and a zip code (required). The caller is asked to hold while the representative determines the appropriate area office and then transfers the call to that office.

If the transfer is completed, the representative notes the call's disposition; if the transfer for a complaint is

unsuccessful, a manual callback form will be completed and telefaxed to the area office. The caller is assured of a callback.

For an unsuccessful transfer of a call determined to be an emergency, alternate numbers and contact persons to OSHA will be tried. The transfer will be repeated until the transfer is successful.

### After-Hour Calls

After normal working hours—4:30 p.m. until 8 a.m. local time, Monday through Friday and all day Saturday, Sunday and during official government holidays—the same information as day time calls is requested with the additional request for the best time for a callback.

If the caller expressly states that the call is an emergency, an information form is completed and the caller is assured that the appropriate representative will be contacted immediately. The information regarding the location of the emergency is verbally provided to the OSHA representative.

If the call is not an emergency, the nature of the complaint is noted by the operator and telefaxed to the appropriate area office. These call reports are telefaxed to the area office by 11 a.m., local time.

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