OSHA Poster 2203
Other-than-serious violation
Permanent variance
Petition for Modification of Abatement (PMA)
Proposed penalty
Proximate cause
Record keeping
Repeat violations
Reporting
Serious violation
Standards
Star Program
State-level safety and health programs
Temporary emergency standards
Temporary variance
Tort
Voluntary Protection Programs (VPPs)
Willful/reckless conduct
Willful violation
Workplace accidents
Workplace inspection

Chap 6

REVIEW QUESTIONS

1. Briefly explain the rationale for the OSH Act.
2. What is OSHA's mission or purpose?
3. List those who are exempted from coverage by OSHA.
4. Explain the difference between an OSHA standard and an OSHA regulation.
5. Explain how the following processes relating to OSHA standards are accomplished: passage of a new standard; request for a temporary variance; appealing a standard.
6. Briefly describe OSHA's latest record-keeping requirements.
7. What are OSHA's reporting requirements?
8. Explain what employers are required to do to keep employees informed.
9. Explain the various components of OSHA's enhanced enforcement policy.
10. Describe how a hypothetical OSHA workplace inspection would proceed from the first step to the last.
11. List and explain three different types of OSHA citations and the typical penalties that accompany them.
12. Describe the process for appealing an OSHA citation.
13. List and briefly explain OSHA's voluntary protection programs.
14. List five employer responsibilities.
15. List five employee rights.
16. Describe the purpose and organization of NIOSH.
17. Define the following legal terms as they relate to workplace safety: *negligence; liability; ability to pay; tort.*

ENDNOTES

1. U.S. Department of Labor, Occupational Safety and Health Administration, *All About OSHA*, OSHA 2056, rev. ed. (Washington, DC: U.S. Department of Labor, Occupational Safety and Health Administration, 2002), 1.
2. Ibid.
3. Ibid., 2.
4. Ibid., 5.
5. Ibid., 7.
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7. Retrieved from www.osha.gov/standards in 2003.
8. Ibid.
9. Ibid.

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all other territories that fall under the jurisdiction of the U.S. government. Exempted employers are

- Persons who are self-employed
- Family farms that employ only immediate members of the family
- Federal agencies covered by other federal statutes (in cases where these other federal statutes do not cover working conditions in a specific area or areas, OSHA standards apply)
- State and local governments (except to gain OSHA's approval of a state-level safety and health plan, states must provide a program for state and local government employees that is at least equal to its private sector plan)
- Coal mines (coal mines are regulated by mining-specific laws)

Federal government agencies are required to adhere to safety and health standards that are comparable to and consistent with OSHA standards for private sector employees. OSHA evaluates the safety and health programs of federal agencies. However, OSHA cannot assess fines or monetary damages against other federal agencies as it can against private sector employers.

There are many OSHA requirements to which employers must adhere. Some apply to all employers—except those exempted—whereas others apply only to specific types of employers. These requirements cover areas of concern such as the following:

- Fire protection
- Electricity
- Sanitation
- Air quality
- Machine use, maintenance, and repair
- Posting of notices and warnings
- Reporting of accidents and illnesses
- Maintaining written compliance programs
- Employee training

In addition to these, other more important and widely applicable requirements are explained later in this chapter.

OSHA STANDARDS

The following statement by the U.S. Department of Commerce summarizes OSHA's responsibilities relating to standards:

> In carrying out its duties, OSHA is responsible for promulgating legally enforceable standards. OSHA standards may require conditions, or the adoption or use of one or more practices, means, methods, or processes reasonably necessary and appropriate to protect workers on the job. It is the responsibility of employers to become familiar with standards applicable to their establishments and to ensure that employees have and use personal protective equipment when required for safety.[4]

The general duty clause of the OSH Act requires that employers provide a workplace that is free from hazards that are likely to harm employees. This is important because the general duty clause applies when there is no specific OSHA standard for a given situation. Where OSHA standards do exist, employers are required to comply with them as written.

How Standards Are Developed

OSHA develops **standards** based on its perception of need and at the request of other federal agencies, state and local governments, other standards-setting agencies, labor

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organizations, or even individual private citizens. OSHA uses the committee approach for developing standards, both standing committees within OSHA and special ad hoc committees. Ad hoc committees are appointed to deal with issues that are beyond the scope of the standing committees.

OSHA's standing committees are the **National Advisory Committee on Occupational Safety and Health (NACOSH)** and the Advisory Committee on Construction Safety and Health. NACOSH makes recommendations on standards to the secretary of health and human services and to the secretary of labor. The Advisory Committee on Construction Safety and Health advises the secretary of labor on standards and regulations relating specifically to the construction industry.

The **National Institute for Occupational Safety and Health (NIOSH)**, like OSHA, was established by the OSH Act. Whereas OSHA is part of the U.S. Department of Labor, NIOSH is part of the Department of Health and Human Services. NIOSH has an education and research orientation. The results of this agency's research are often used to assist OSHA in developing standards.

OSHA Standards versus OSHA Regulations

OSHA issues both standards and regulations. Safety and health professionals need to know the difference between the two. OSHA standards address specific hazards such as working in confined spaces, handling hazardous waste, or working with dangerous chemicals. Regulations are more generic in some cases than standards and more specific in others. However, even when they are specific, regulations do not apply to specific hazards. Regulations do not require the rigorous review process that standards go through. This process is explained in the next section.

How Standards Are Adopted, Amended, or Revoked

OSHA can adopt, amend, or revise standards. Before any of these actions can be undertaken, OSHA must publish its intentions in the *Federal Register* in either a notice of proposed rule making or an advance notice of proposed rule making. The **notice of proposed rule making** must explain the terms of the new rule, delineate proposed changes to existing rules, or list rules that are to be revoked. The advance notice of proposed rule making may be used instead of the regular notice when it is necessary to solicit input before drafting a rule.

After publishing notice, OSHA must conduct a public hearing if one is requested. Any interested party may ask for a public hearing on a proposed rule or rule change. When this happens, OSHA must schedule the hearing and announce the time and place in the *Federal Register*.

The final step, according to the U.S. Department of Labor, is as follows:

> After the close of the comment period and public hearing, if one is held, OSHA must publish in the Federal Register the full, final text of any standard amended or adopted and the date it becomes effective, along with an explanation of the standard and the reasons for implementing it. OSHA may also publish a determination that no standard or amendment needs to be issued.[5]

How to Read an OSHA Standard

OSHA standards are typically long and complex and are written in the language of lawyers and bureaucrats, making them difficult to read. However, reading OSHA standards can be simplified somewhat if one understands the system.

OSHA standards are part of the *CFR*, published by the Office of the *Federal Register*. The regulations of all federal-government agencies are published in the *CFR*. Title 29 contains all the standards assigned to OSHA. Title 29 is divided into several parts, each carrying a four-number designator (such as Part 1901, Part 1910). These parts are divided into sections, each carrying a numerical designation. For example, 29 CFR 1910.1 means *Title 29, Part 1910, Section 1, Code of Federal Regulations*.

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The sections are divided into four different levels of subsections, each with a particular type of designator as follows:

First Level:	Alphabetically using lowercase letters in parentheses: (a) (b) (c) (d)
Second Level:	Numerically using numerals in parentheses: (1) (2) (3) (4)
Third Level:	Numerically using roman numerals in parentheses: (i) (ii) (iii) (iv)
Fourth Level:	Alphabetically using uppercase letters in parentheses: (A) (B) (C) (D)

Occasionally, the standards go beyond the fourth level of subsection. In these cases, the sequence just described is repeated with the designator shown in parentheses underlined. For example: (a), (1), (i), (A).

Understanding the system used for designating sections and subsections of OSHA standards can guide readers more quickly to the specific information needed. This helps reduce the amount of cumbersome reading needed to comply with the standards.

Temporary Emergency Standards

The procedures described in the previous section apply in all cases. However, OSHA is empowered to pass **temporary emergency standards** on an emergency basis without undergoing normal adoption procedures. Such standards remain in effect only until permanent standards can be developed.

To justify passing temporary standards on an emergency basis, OSHA must determine that workers are in imminent danger from exposure to a hazard not covered by existing standards. Once a temporary standard has been developed, it is published in the *Federal Register.* This step serves as the notification step in the permanent adoption process. At this point, the standard is subjected to all the other adoption steps outlined in the preceding section.

How to Appeal a Standard

After a standard has been passed, it becomes effective on the date prescribed. This is not necessarily the final step in the **appeals process**, however. A standard, either permanent or temporary, may be appealed by any person who is opposed to it.

An appeal must be filed with the U.S. Court of Appeals serving the geographic region in which the complainant lives or does business. Appeal paperwork must be initiated within 60 days of a standard's approval. However, the filing of one or more appeals does not delay the enforcement of a standard unless the court of appeals handling the matter mandates a delay. Typically, the new standard is enforced as passed until a ruling on the appeal is handed down.

Requesting a Variance

Occasionally, an employer may be unable to comply with a new standard by the effective date of enforcement. In such cases, the employer may petition OSHA at the state or federal level for a variance. Following are the different types of variances that can be granted.

Temporary Variance

When an employer advises that it is unable to comply with a new standard immediately but may be able to if given additional time, a **temporary variance** may be requested. OSHA may grant such a variance for up to a maximum of one year. To be granted a temporary variance, employers must demonstrate that they are making a concerted effort to comply and taking the steps necessary to protect employees while working toward compliance.

Application procedures are very specific. Prominent among the requirements are the following: (1) identification of the parts of the standard that cannot be complied

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with; (2) explanation of the reasons why compliance is not possible; (3) detailed explanations of the steps that have been taken so far to comply with the standard; and (4) explanation of the steps that will be taken to comply fully.

According to the U.S. Department of Labor, employers are required to keep their employees informed. They must "certify that workers have been informed of the variance application, that a copy has been given to the employees' authorized representative, and that a summary of the application has been posted wherever notices are normally posted. Employees also must be informed that they have the right to request a hearing on the application."[6]

Variances are not granted simply because an employer cannot afford to comply. For example, if a new standard requires employers to hire a particular type of specialist but there is a shortage of people with the requisite qualifications, a temporary variance might be granted. However, if the employer simply cannot afford to hire such a specialist, the variance will probably be denied. Once a temporary variance is granted, it may be renewed twice. The maximum period of each extension is six months.

Permanent Variance

Employers who feel they already provide a workplace that exceeds the requirements of a new standard may request a **permanent variance**. They present their evidence, which is inspected by OSHA. Employees must be informed of the application for a variance and notified of their right to request a hearing. Having reviewed the evidence and heard testimony (if a hearing has been held), OSHA can award or deny the variance. If a permanent variance is awarded, it comes with a detailed explanation of the employer's ongoing responsibilities regarding the variance. If, at any time, the company does not meet these responsibilities, the variance can be revoked.

Other Variances

In addition to temporary and permanent variances, an experimental variance may be awarded to companies that participate in OSHA-sponsored experiments to test the effectiveness of new health and safety procedures. Variances also may be awarded in cases where the secretary of labor determines that a variance is in the best interest of the country's national defense.

When applying for a variance, employers are required to comply with the standard until a decision has been made. If this is a problem, the employer may petition OSHA for an interim order. If granted, the employer is released from the obligation to comply until a decision is made. In such cases, employees must be informed of the order.

Typical of OSHA standards are the confined space and hazardous waste standards. Brief profiles of these standards provide an instructive look at how OSHA standards are structured and the extent of their coverage.

Confined Space Standard

This standard was developed in response to the approximately 300 work-related deaths that occur in confined spaces each year.[7] The standard applies to a broad cross section of industries that have employees working in spaces with the following characteristics: limited openings for entry or exit, poor natural ventilation, and a design not intended to accommodate continuous human occupancy. Such spaces as manholes, storage tanks, underground vaults, pipelines, silos, vats, exhaust ducts, boilers, and degreasers are typically considered confined spaces.

The key component in the standard is the *permit requirement*. Employers are required to develop an in-house program under which employees must have a permit to enter confined spaces. Through such programs, employers must do the following:

- Identify spaces that can be entered only by permit.
- Restrict access to identified spaces to ensure that only authorized personnel may enter.

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- Control hazards in the identified spaces through engineering, revised work practices, and other methods.
- Continually monitor the identified spaces to ensure that any known hazards remain under control.

The standard applies to approximately 60 percent of the workers in the United States. Excluded from coverage are federal, state, and local government employees; agricultural workers; maritime and construction workers; and employees of companies with 10 or fewer workers.

Hazardous Waste Standard

This standard specifically addresses the safety of the estimated 1.75 million workers who deal with hazardous waste: hazardous waste workers in all situations, including treatment, storage, handling, and disposal; firefighters; police officers; ambulance personnel; and hazardous materials response team personnel.[8]

The requirements of this standard are as follows:

- Each hazardous waste site employer must develop a safety and health program designed to identify, evaluate, and control safety and health hazards, and provide for emergency response.
- There must be preliminary evaluation of the site's characteristics prior to entry by a trained person to identify potential site hazards and to aid in the selection of appropriate employee protection methods.
- The employer must implement a site control program to prevent contamination of employees. At a minimum, the program must identify a site map, site work zones, site communications, safe work practices, and the location of the nearest medical assistance. Also required in particularly hazardous situations is the use of the buddy system so that employees can keep watch on one another and provide quick aid if needed.
- Employees must be trained before they are allowed to engage in hazardous waste operations or emergency response that could expose them to safety and health hazards.
- The employer must provide medical surveillance at least annually and at the end of employment for all employees exposed to any particular hazardous substance at or above established exposure levels or those who wear approved respirators for 30 days or more on-site.
- Engineering controls, work practices, and personal protective equipment, or a combination of these methods, must be implemented to reduce exposure below established exposure levels for the hazardous substances involved.
- There must be periodic air monitoring to identify and quantify levels of hazardous substances and to ensure that proper protective equipment is being used.
- The employer must set up an informational program with the names of key personnel and their alternates responsible for site safety and health, and the requirements of the standard.
- The employer must implement a decontamination procedure before any employee or equipment leaves an area of potential hazardous exposure; establish operating procedures to minimize exposure through contact with exposed equipment, other employees, or used clothing; and provide showers and change rooms where needed.
- There must be an emergency response plan to handle possible on-site emergencies prior to beginning hazardous waste operations. Such plans must address personnel roles; lines of authority, training, and communications; emergency recognition and prevention; safe places of refuge; site security; evacuation routes and procedures; emergency medical treatment; and emergency alerting.
- There must be an off-site emergency response plan to better coordinate emergency action by local services and to implement appropriate control actions.[9]

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Meat and fish markets
Mailing, reproduction, and stenographic
Medical and dental laboratories
Title abstract offices
Used car dealers

KEEPING EMPLOYEES INFORMED

One of the most important requirements of the OSH Act is *communication*. Employers are required to keep employees informed about safety and health issues that concern them. Most of OSHA's requirements in this area concern the posting of material. Employers are required to post the following material at locations where employee information is normally displayed:

- OSHA Poster 2203, which explains employee rights and responsibilities as prescribed in the OSH Act. The state version of this poster may be used as a substitute.
- Summaries of variance requests of all types.
- Copies of all OSHA citations received for failure to meet standards. Unlike other informational material, citations must be posted near the site of the violation. They must remain until the violation is corrected or for a minimum of three days, whichever period is longer.
- OSHA Form 300A (Summary of Workplace Injuries and Illnesses). Each year the new summary must be posted by February 1 and must remain posted until April 30.

In addition to the posting requirements, employers must also provide employees who request them with copies of the OSH Act and any OSHA rules that may concern them. Employees must be given access to records of exposure to hazardous materials and medical surveillance that has been conducted.

WORKPLACE INSPECTIONS AND ENFORCEMENT

One of the methods OSHA uses for enforcing its rules is the **workplace inspection**. OSHA personnel may conduct workplace inspections unannounced, and except under special circumstances, giving an employer prior notice is a crime punishable by fine, imprisonment, or both.

When OSHA compliance officers arrive to conduct an inspection, they are required to present their credentials to the person in charge. Having done so, they are authorized to enter, at reasonable times, any site, location, or facility where work is taking place. They may inspect, at reasonable times, any condition, facility, machine, equipment, materials, and so on. Finally, they may question, in private, any employee or other person formally associated with the company.

Under special circumstances, employers may be given up to a maximum of 24 hours' notice of an inspection. These circumstances are

- When imminent danger conditions exist
- When special preparation on the part of the employer is required
- When inspection must take place at times other than during regular business hours
- When it is necessary to ensure that the employer, employee representative, and other pertinent personnel will be present
- When the local area director for OSHA advises that advance notice will result in a more effective inspection

Employers may require that OSHA have a judicially authorized warrant before conducting an inspection. The U.S. Supreme Court handed down this ruling in 1978 (*Marshall*

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v. Barlow's Inc.).[13] However, having obtained a legal warrant, OSHA personnel must be allowed to proceed without interference or impediment.

The OSH Act applies to approximately 6 million work sites in the United States. Sheer volume dictates that OSHA establish priorities for conducting inspections. These priorities are as follows: imminent danger situations, catastrophic fatal accidents, employee complaints, planned high-hazard inspections, and follow-up inspections.

After being scheduled, the inspection proceeds in the following steps:

1. The OSHA compliance officer presents his or her credentials to a company official.
2. The compliance officer conducts an **opening conference** with pertinent company officials and employee representatives. The following information is explained during the conference: why the plant was selected for inspection, the purpose of the inspection, its scope, and applicable standards.
3. After choosing the route and duration, the compliance officer makes the **inspection tour**. During the tour, the compliance officer may observe, interview pertinent personnel, examine records, take readings, and take photographs.
4. The compliance officer holds a **closing conference**, which involves open discussion between the officer and company and employee representatives. OSHA personnel advise company representatives of problems noted, actions planned as a result, and assistance available from OSHA.

OSHA'S ENHANCED ENFORCEMENT POLICY

Organizations that receive OSHA citations for high-gravity violations are subject to enhanced enforcement measures. Components of the enhanced enforcement policy include follow-up inspections, programmed inspections, public awareness, settlements, and Section 11(b) summary enforcement orders.

Follow-Up Inspections

High-gravity violations include high-gravity willful violations, multiple high-gravity serious violations, repeat violations at the originating establishment, failure-to-abate notices, and serious or willful violations related to a workplace fatality. Organizations that commit any of these types of violations will receive on-site follow-up inspections. In addition, OSHA's area directors are empowered to conduct follow-up inspections to verify compliance if there is reason to suspect that a required abatement has not occurred.

Programmed Inspections

OSHA's *site-specific targeting process* uses objective selection criteria to schedule programmed inspections. As part of this process, OSHA records the name of the overall corporate entity during inspections and prioritizes within its site-specific targeting list all branch and affiliated facilities under the entity's broad corporate umbrella that have received high-gravity violations.

Public Awareness

When an organization receives a high-gravity violation of the type listed above under "Follow-up Inspections," OSHA makes the public aware of the violation and all applicable enforcement actions taken by issuing press releases through local and national media. In addition, high-gravity violations at branch and affiliated facilities are made known to the company's corporate headquarters through official notification by OSHA, of the citation and corresponding penalties.

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Settlements

Provisions for high-gravity violation settlement agreements

1. Require the organization in question to hire consultants to develop a feasible process for changing the health and safety culture in the facility where the violations occurred
2. Apply the violation settlement not just to the facility in question but also corporate-wide
3. Include information about other job sites of the organization in question
4. Require the organization to consent in advance to report all serious injuries and illnesses that require outside medical care and to receive OSHA inspections based on the report
5. Agree to consent to entry of a court enforcement order under Section 11(b) of the OSH Act

Section 11(b) Summary Enforcement Orders

In cases of the kinds of high-gravity violations listed earlier in this section, OSHA applies to the appropriate federal court of appeal for orders that summarily enforce the citations in question under Section 11(b) of the OSH Act. This means that once a Section 11(b) order has been entered, organizations that fail to comply may be held in contempt of court—an action OSHA pursues.

CITATIONS AND PENALTIES

Based on the findings of the compliance officer's workplace inspections, OSHA is empowered to issue citations and/or assess penalties. A citation informs the employer of OSHA violations. Penalties are typically fines assessed as the result of citations. The types of citations and their corresponding penalties are as follows:

- *Other-than-serious violation.* A violation that has a direct relationship to job safety and health, but probably would not cause death or serious physical harm. A **proposed penalty** of up to $7,000 for each violation is discretionary. A penalty for an **other-than-serious violation** may be adjusted downward by as much as 95 percent, depending on the employer's good faith (demonstrated efforts to comply with the act), history of previous violations, and size of business.
- *Serious violation.* A violation in which there is a high probability that death or serious physical injury may result and that the employer knew or should have known of the hazard. OSHA proposes a mandatory penalty for each **serious violation**. The actual penalty may be adjusted downward depending on the employer's good faith, history of prior violations, and the gravity of the alleged violation.
- *Willful violation.* A violation that the employer intentionally and knowingly commits. The employer either knows that what he or she is doing constitutes a violation or is aware that a hazardous condition exists and has made no reasonable effort to eliminate it. Penalties may be proposed for each **willful violation**, with a minimum penalty of $5,000 for each violation. A proposed penalty for a willful violation may be adjusted downward, depending on the size of the business and its history of previous violations. Usually, no credit is given for good faith. If an employer is convicted of a willful violation of a standard that has resulted in the death of an employee, the offense is punishable by a court-imposed fine or by imprisonment for up to six months, or both. A fine of up to $250,000 for an individual or $500,000 for a corporation may be imposed for a criminal conviction.
- *Repeat violation.* A violation of any standard, regulation, rule, or order where, upon reinspection, a substantially similar violation is found. **Repeat violations** can result in a fine for each such violation. To be the basis of a repeat citation, the original citation must be final; a citation under contest may not serve as the basis for a subsequent repeat citation.

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Safety Fact

OSHA's Most Frequently Given Citations

Although the order can change from year to year, the following categories of violations typically receive the most OSHA citations in a given year:

- Scaffolding
- Hazard communication
- Fall production
- Respiratory protection
- Lockout/tagout
- Powered industrial trucks (forklifts)
- Electrical wiring methods, components, and equipment
- Machine guarding
- Electrical requirements
- Ladders

- *Failure to abate prior violation.* Failure to correct a prior violation may bring a civil penalty for each day that the violation continues beyond the prescribed abatement date.
- *De minimis violation.* Violations of standards that have no direct bearing on safety and health. **De minimis violations** are documented like any other violation, but they are not included in citations.[14]

In addition to the citations and penalties described in the preceding paragraphs, employers may also be penalized by additional fines and/or prison if convicted of any of the following offenses: (1) falsifying records or any other information given to OSHA personnel; (2) failing to comply with posting requirements; and (3) interfering in any way with OSHA compliance officers in the performance of their duties.

Examples of OSHA Citations and Fines

Private sector companies in the United States experience more than 5 million workplace injuries and illness every year. In just the manufacturing and construction sectors alone, OSHA documents more than 75,000 violations annually and issues penalties amounting to more than $70 million. This section provides examples of companies that received citations for various violations and, as a result, were assessed penalties in the form of fines.

Failure to properly use machine guards. A wire manufacturing company was fined $47,700 when an employee who was operating two wire spinning machines was caught around the neck by a loop of wire and choked to death. The company was cited for failure to properly guard machine pulleys, use lockout/tagout procedures, and properly guard rotating machine parts (the spools on the wire spinning machines).[15]

Selected through OSHA's site-specific targeting program. A metal manufacturing company came under OSHA's scrutiny because it had a higher-than-average number of lost day injuries. OSHA conducted an on-site inspection and found numerous violations including the following: failure to remove dangerous electrical wiring, provide personal protection gear and ensure employees wear it, reduce hazardous noise levels, guard machines, train employers on hazardous communication, and properly store oxygen tanks. As a result of these violations, OSHA fined the company $288,000.[16]

Failure to train employees in the application of proper safety procedures. A paper manufacturing company was fined $258,000 when it allowed employees to

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apply improper and unsafe procedures when attempting to light a boiler. As a result of these improper procedures, the boiler exploded. Two of the three employees were killed (fire and chemical burns). The company was also cited for failure to remove debris from the facility, repair numerous structural hazards (loose bricks, concrete, and glass), and provide fall protection.[17]

Failure to abate previous hazards. A woodworking company was fined $27,800 when it failed to correct hazardous situations that had been previously cited. The conditions that led to the fine included failure to protect employees from paint and lacquer finish vapors, properly store flammable materials, fit-test and train employees in the proper use of respirators, and train employees on fire safety.[18]

APPEALS PROCESS

Employee Appeals

Employees may not contest the fact that citations were or were not awarded or the amounts of the penalties assessed. However, they may appeal the following aspects of OSHA's decisions regarding their workplace: (1) the amount of time **(abatement period)** given an employer to correct a hazardous condition that has been cited and (2) an employer's request for an extension of an abatement period. Such appeals must be filed within 10 working days of a posting. Although opportunities for formal appeals by employees are unlimited, employees may request an informal conference with OSHA officials to discuss any issue relating to the findings and results of a workplace inspection.

Employer Appeals

Employers may appeal a citation, an abatement period, or the amount of a proposed penalty. Before actually filing an appeal, however, an employer may ask for an informal meeting with OSHA's area director. The area director is empowered to revise citations, abatement periods, and penalties in order to settle disputed claims. If the situation is not resolved through this step, an employer may formalize the appeal. Formal appeals are of two types: (1) a petition for modification of abatement or (2) a notice of contest. The specifics of both are explained in the following paragraphs.

Petition for Modification of Abatement

The **Petition for Modification of Abatement (PMA)** is available to employers who intend to correct the situation for which a citation was issued, but who need more time. As a first step, the employer must make a good-faith effort to correct the problem within the prescribed time frame. Having done so, the employer may file a petition for modification of abatement. The petition must contain the following information:

- Descriptions of steps taken so far to comply
- Length of additional time needed for compliance and why
- Descriptions of the steps being taken to protect employees during the interim
- Verification that the PMA has been posted for employee information and that the employee representative has been given a copy

Notice of Contest

An employer who does not wish to comply may contest a citation, an abatement period, and/or a penalty. The first step is to notify OSHA's area director in writing. This is known as filing a **notice of contest**. It must be done within 15 federal working days of receipt of a citation or penalty notice. The notice of contest must clearly describe the basis

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Chap 7

Public hearing
Reform
Rehabilitation
Schedule disabilities
Self-insurance
State funds
Stress claims
Temporary partial disability
Temporary total disability
Vocational rehabilitation
Wage-loss theory
Whole-person theory
Worker negligence
Workers' compensation
Workplace accident

REVIEW QUESTIONS

1. Explain the underlying rationale of workers' compensation as a concept.
2. List four objectives of workers' compensation.
3. List five types of employees who may not be covered by workers' compensation.
4. What is meant by the term *contributory negligence?*
5. What is meant by the term *assumption of risk?*
6. Explain the reasons for the unprecedented increases in medical costs in the United States.
7. What are the three types of workers' compensation insurance?
8. Insurance companies use one of six methods for determining the premium rates of employers. Select three and explain them.
9. How can one determine if an injury should be considered serious?
10. Explain the concepts of AOE and COE.
11. Distinguish between an employee and an independent contractor.
12. Define the following terms: *temporary disability* and *permanent disability.*
13. Explain the following theories of handling permanent partial disability cases: *whole-person*, *wage-loss*, and *loss of wage-earning capacity.*
14. Distinguish between medical and vocational rehabilitation.
15. What are the three approaches for settling workers' compensation claims?
16. Explain the concept of medical management of workplace injuries.
17. Explain the theory of cost allocation.
18. Summarize briefly the problems most widely associated with workers' compensation.
19. What types of actions are workers' compensation reform movements likely to recommend in the future?
20. Explain the most common workers' compensation cost-reduction strategies.

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CHAPTER

WORKERS' COMPENSATION

7

Major Topics

- Overview of Workers' Compensation
- Historical Perspective
- Workers' Compensation Legislation
- Modern Workers' Compensation
- Workers' Compensation Insurance
- Resolution of Workers' Compensation Disputes
- Injuries and Workers' Compensation
- Disabilities and Workers' Compensation
- Monetary Benefits of Workers' Compensation
- Medical Treatment and Rehabilitation
- Medical Management of Workplace Injuries
- Administration and Case Management
- Cost Allocation
- Problems with Workers' Compensation
- Spotting Workers' Compensation Fraud and Abuse
- Future of Workers' Compensation
- Cost-Reduction Strategies

OVERVIEW OF WORKERS' COMPENSATION

The concept of **workers' compensation** developed as a way to allow injured employees to be compensated appropriately without having to take their employer to court. The underlying rationale for workers' compensation had two aspects: (1) fairness to injured employees, especially those without the resources to undertake legal actions that are often long, drawn out, and expensive and (2) reduction of costs to employers associated with workplace injuries (for example, legal, image, and morale costs). Workers' compensation is intended to be a no-fault approach to resolving workplace accidents by rehabilitating injured employees and minimizing their personal losses because of their reduced ability to perform and compete in the labor market.[1] Since its inception as a concept, workers' compensation has evolved into a system that pays out approximately $70 million in benefits and medical costs annually. The national average net cost of workers' compensation in the manufacturing sector is almost $6 per $100 of payroll.

Workers' compensation represents a compromise between the needs of employees and the needs of employers. Employees give up their right to seek unlimited compensation for pain and suffering through legal action. Employers award the prescribed compensation (typically through insurance premiums) regardless of the employee's negligence. The theory is that in the long run both employees and employers will benefit more than either would through legal action. As you will see later in this chapter, although workers' compensation

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has reduced the amount of legal action arising out of workplace accidents, it has not completely eliminated legal actions.

Objectives of Workers' Compensation

Workers' compensation laws are not uniform from state to state. In fact, there are extreme variations. However, regardless of the language contained in the enabling legislation in a specific state, workers' compensation as a concept has several widely accepted objectives:

- Replacement of income
- Rehabilitation of the injured employee
- Prevention of accidents
- Cost allocation[2]

The basic premises underlying these objectives are described in the following paragraphs.

Replacement of Income

Employees injured on the job lose income if they are unable to work. For this reason, workers' compensation is intended to replace the lost income adequately and promptly. Adequate **income replacement** is viewed as replacement of current and future income (minus taxes) at a ratio of two-thirds (in most states). Workers' compensation benefits are required to continue even if the employer goes out of business.

Rehabilitation of the Injured Employee

A basic premise of workers' compensation is that the injured worker will return to work in every case possible, although not necessarily in the same job or career field. For this reason, a major objective of workers' compensation is to rehabilitate the injured employee. The **rehabilitation** program is to provide the needed medical care at no cost to the injured employee until he or she is pronounced fit to return to work. The program also provides vocational training or retraining as needed. Both components seek to motivate the employee to return to the labor force as soon as possible.

Prevention of Accidents

Preventing future accidents is a major objective of workers' compensation. The theory underlying this objective is that employers will invest in **accident prevention** programs to hold down compensation costs. The payoff to employers comes in the form of lower insurance premiums that result from fewer accidents.

Cost Allocation

The potential risks associated with different occupations vary. For example, working as a miner is generally considered more hazardous than working as an architect. The underlying principle of **cost allocation** is to spread the cost of workers' compensation appropriately and proportionately among industries ranging from the most to the least hazardous. The costs of accidents should be allocated in accordance with the accident history of the industry so that high-risk industries pay higher workers' compensation insurance premiums than do low-risk industries.[3]

Who Is Covered by Workers' Compensation?

Workers' compensation laws are written at the state level, and there are many variations among these laws. As a result, it is difficult to make generalizations. Complicating the issue

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further is the fact that workers' compensation laws are constantly being amended, revised, and rewritten. Additionally, some states make participation in a workers' compensation program voluntary; others excuse employers with fewer than a specified number of employees.

In spite of the differences among workers' compensation laws in the various states, approximately 80 percent of the employees in the United States are covered by workers' compensation. Those employees who are not covered or whose coverage is limited vary according to the laws. However, they can be categorized in general terms as follows:

- Agricultural employees
- Domestic employees
- Casual employees
- Hazardous work employees
- Charitable or religious employees
- Employees of small organizations
- Railroad and maritime employees
- Contractors and subcontractors
- Minors
- **Extraterritorial employees**[4]

Coverage in these types of employment, to the extent there is coverage, varies from state to state as follows:

- *Agricultural employees* have limited coverage in 38 states, Puerto Rico, and the Virgin Islands. In 15 states, workers' compensation coverage for agricultural employees is voluntary. In these states, employers are allowed to provide coverage if they wish but are not required to do so.
- *Domestic employees* have coverage available in all 50 states and Puerto Rico. However, coverage tends to be limited and subject to minimum requirements regarding hours worked and earnings.
- *Casual employees* are employed in positions in which the work is occasional, incidental, and scattered at irregular intervals. Such employees are not typically afforded workers' compensation coverage.
- *Hazardous employment* is the only type afforded workers' compensation coverage in some states. To qualify, a particular type of employment must be on an approved list of hazardous or especially hazardous jobs. However, the trend in these states is to broaden the list of approved jobs.
- *Charitable or religious employees* are not afforded workers' compensation in most states when this work is irregular, temporary, or short-term.
- *Small organizations* that employ fewer than a stipulated number of employees do not fall under the umbrella of workers' compensation in 26 states.
- *Railroad and maritime workers* are not typically covered by workers' compensation. However, in most cases, they are covered by the Federal Employer's Liability Act. This act disallows the use of common law defenses by employers if sued by an employee for negligence.
- *Contractors and subcontractors* are those who agree to perform a job or service for an agreed amount of money in a nondirected, nonsupervised format. In essence, contract and subcontract employees are viewed as being self-employed. For this reason, they are not covered by workers' compensation.
- *Minors* are afforded regular workers' compensation coverage as long as they are legally employed. In some states, coverage is significantly higher for minors who are working illegally.
- *Extraterritorial employees* are those who work in one state but live in another. In these cases, the employee is usually on temporary duty. Such employees are typically afforded the workers' compensation coverage of their home state.[5]

State	State Fund	Private Insurer	Individual Employer Self-Insurance	Group of Employer's Self-Insurance
Alabama	No	Yes	Yes	Yes
Arkansas	No	Yes	Yes	Yes
California	Competitive	Yes	Yes	No
Florida	No	Yes	Yes	Yes
Indiana	No	Yes	Yes	No
Kansas	No	Yes	Yes	Yes
Maryland	Competitive	Yes	Yes	Yes
Montana	Competitive	Yes	Yes	Yes
Nebraska	No	Yes	Yes	No
New Jersey	No	Yes	Yes	No*
New Mexico	Competitive	Yes	Yes	Yes
Vermont	No	Yes	Yes	No
Washington	Exclusive	No	Yes	Yes
Wisconsin	No	Yes	Yes	No

* Permits 10 or more employees licensed by the state to group self-insure.

Figure 7–1
Workers' compensation coverage methods allowed for selected states.
Source: U.S. Department of Labor, 2005.

3. *Experience rating.* Employers are classified by type. Premium rates are assigned based on predictions of average losses for a given type of employer. Rates are then adjusted either up or down according to the employer's actual experience over the past three years.
4. *Retrospective rating.* Employees pay an established rate for a set period. At the end of the period, the actual experience is assessed, and an appropriate monetary adjustment is made.
5. *Premium discounting.* Large employers receive discounts on their premiums based on their size. The theory behind this method is that it takes the same amount of time to service a small company's account as it does for a large company, but the large company produces significantly more income for the insurer. **Premium discounts** reward the larger company for its size.
6. *Combination method.* The insurer combines two or more of the other methods to arrive at premium rates.[18]

The trend nationwide for the past decade has been for premiums to increase markedly. For example, over the past 10 years, some states experienced increases of over 60 percent. This trend will ensure that workers' compensation remains a controversial issue in the state legislatures.

RESOLUTION OF WORKERS' COMPENSATION DISPUTES

One of the fundamental objectives of workers' compensation is to avoid costly, time-consuming litigation. Whether this objective is being accomplished is questionable. When an injured employee and the employer's insurance company disagree on some aspect of the compensation owed (for example, weekly pay, length of benefits, degree of disability), the disagreement must be resolved. Most states have an arbitration board for this purpose. Neither the insurance company nor the injured employee is required to hire an attorney.

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However, many employees do. There are a number of reasons for this. Some don't feel they can adequately represent themselves. Others are fearful of the "big business running over the little guy" syndrome. In any case, workers' compensation litigation is still very common and expensive.

Allowable attorney fees are set by statute, administrative rule, or policy in most states. In some states, attorney fees can be added to the injured employee's award. In others, the fee is a percentage of the award.

INJURIES AND WORKERS' COMPENSATION

The original workers' compensation concept envisioned compensation for workers who were injured in on-the-job accidents. What constituted an accident varied from state to state. However, all original definitions had in common the characteristics of being *sudden* and *unexpected*. Over the years, the definition of an accident has undergone continual change. The major change has been a trend toward the elimination of the "sudden" characteristic. In many states, the gradual onset of a disease as a result of prolonged exposure to harmful substances or a harmful environment can now be considered an accident for workers' compensation purposes.

A **harmful environment** does not have to be limited to its physical components. Psychological factors (such as stress) can also be considered. In fact, the highest rate of growth in workers' compensation claims over the past two decades has been in the area of stress-related injuries.

The National Safety Council maintains statistical records of the numbers and types of injuries suffered in various industries in the United States. Industries are divided into the following categories: agriculture, mining, construction, manufacturing, transportation/public utilities, trade, services, and public sector. Injuries in these industrial sectors are classified according to the type of accident that caused them. Accident types include overexertion, being struck by or against an object, falls, bodily reactions, caught in or between objects, motor vehicle accident, coming in contact with radiation or other caustics, being rubbed or abraded, and coming in contact with temperature extremes.

Over 30 percent of all disabling work injuries are the result of overexertion when all industry categories are viewed in composite. The next most frequent cause of injuries is struck by/struck against objects at 24 percent. Falls account for just over 17 percent. The remainder is fairly evenly distributed among the other accident types listed above.[19]

AOE and COE Injuries

Workers' compensation benefits are owed only when the **injury arises *out of employment (AOE)*** or **injury occurs in the *course of employment (COE)***. When employees are injured undertaking work prescribed in their job description, work assigned by a supervisor, or work normally expected of employees, they fall into the AOE category. Sometimes, however, different circumstances determine whether the same type of accident is considered to be AOE. For example, say a soldering technician burns her hand while repairing a printed circuit board that had been rejected by a quality control inspector. This injury would be classified as AOE. Now suppose the same technician brings a damaged printed circuit board from her home stereo to work and burns her hand while trying to repair it. This injury would not be covered because the accident did not arise from her employment. Determining whether an injury should be classified as AOE or COE is often a point of contention in workers' compensation litigation.

Who Is an Employee?

Another point of contention in workers' compensation cases is the definition of the term *employee*. This is an important definition because it is used to determine AOE and COE. A person who is on the company's payroll, receives benefits, and has a supervisor is clearly an **employee**. However, a person who accepts a service contract to perform a specific

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task or set of tasks and is not directly supervised by the company is not considered an employee. Although definitions vary from state to state, there are common characteristics. In all definitions, the workers must receive some form of remuneration for work done, and the employer must benefit from this work. Also, the employer must supervise and direct the work, both process and result. These factors—supervision and direction—are what set **independent contractors** apart from employees and exclude them from coverage. Employers who use independent contractors sometimes require the contractors to show proof of having their own workers' compensation insurance.

Unless an employer provides transportation, employees are not generally covered by workers' compensation when traveling to and from work. However, in some circumstances, they can be covered. Consider the following example:

> Mary works at home three days a week and in the office two days. Wednesday is typically one of her days to telecommute from home. Around ten in the morning, Mary got a call from her supervisor asking her to rush to the office for an unplanned but important meeting and to bring several files that are critical to the subject of the meeting. On the way, Mary had an accident and was injured. Since she was transporting job-specific files at the request of her supervisor, the case was considered work-related, and Mary was eligible for workers' compensation.[20]

Another example shows that Mary's case was special. Tom works in an office in a large city. Because he preferred to drive his own car to work instead of using the public transportation system, Tom had to expose himself to dangerous rush-hour traffic twice every workday. One day, Tom was injured in an accident while driving home from work. He filed a workers' compensation claim, but it was denied because driving to and from work in his own automobile was not considered work related.[21]

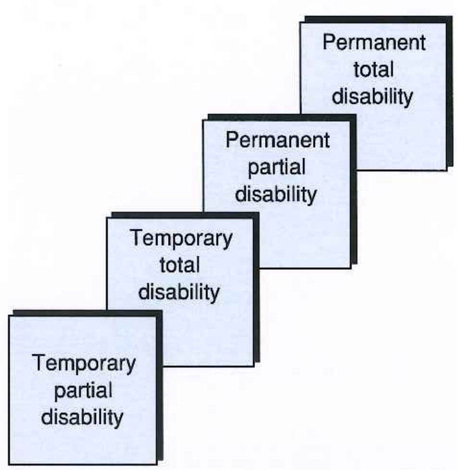
DISABILITIES AND WORKERS' COMPENSATION

Injuries that are compensable typically fall into one of four categories: (1) temporary partial disability, (2) temporary total disability, (3) permanent partial disability, and (4) permanent total disability (Figure 7–2). Determining the extent of disability is often a contentious issue. In fact, it accounts for more workers' compensation litigation than any other issue. Further, when a disability question is litigated, the case tends to be complicated because the evidence is typically subjective, and it requires hearing officers, judges, or juries to determine the future.

Temporary Disability

Temporary disability is the state that exists when it is probable that an injured worker, who is currently unable to work, will be able to resume gainful employment with no or only partial disability. Temporary disability assumes that the employee's condition will substantially

Figure 7–2
Types of disabilities.



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Safety Myth

Workers' Compensation Claims and Character

A leopard doesn't change its spots. A dishonest employee will always abuse the workers' compensation system with fraudulent claims. Right? Maybe not. A company in Oklahoma reduced its workers' compensation costs in just two years from $486,000 to $47,000. How did this company accomplish a reduction of this magnitude? With character training based on biblical principles. The program focuses on such character traits as honesty, attentiveness, gratitude, and dependability. At monthly training sessions, employees discuss one character trait and how it applies on the job.

improve. Determining whether an employee is temporarily disabled is not normally difficult. Competent professionals can usually determine the extent of the employee's injuries, prescribe the appropriate treatment, and establish a timeline for recovery. They can then determine if the employee will be able to return to work and when the return might take place.

There is an important point to remember when considering a temporary disability case: The ability to return to work relates only to work with the company that employed the worker at the time of the accident.

Temporary disability can be classified as either *temporary total disability* or *temporary partial disability*. A **temporary total disability** classification means the injured worker is incapable of any work for a period of time but is expected to recover fully. Most workers' compensation cases fall in this classification. A **temporary partial disability** means the injured worker is capable of light or part-time duties. Depending on the extent of the injury, temporary partial disabilities sometimes go unreported. This practice is allowable in some states. It helps employers hold down the cost of their workers' compensation premium. This is similar to not reporting a minor fender bender to your automobile insurance agent.

Most states prescribe in law the benefits owed in temporary total disability cases. Factors prescribed typically include a set percentage of an employee's wage that must be paid and a maximum period during which benefits can be collected. Figure 7–3 shows this information for a geographically distributed selection of states. Because workers' compensation legislation changes continually, this figure is provided only as an illustration of how benefits are prescribed in the laws of the various states. Actual rates are subject to change.

Permanent Partial Disability

Permanent partial disability is the condition that exists when an injured employee is not expected to recover fully. In such cases, the employee will be able to work again but not at full capacity. Often employees who are partially disabled must be retrained for another occupation.

Permanent partial disabilities can be classified as *schedule* or *nonschedule* disabilities. ***Schedule disabilities*** are typically the result of nonambiguous injuries such as the loss of a critical but duplicated body part (for example, arm, ear, hand, finger, or toe). Because such injuries are relatively straightforward, the amount of compensation that they generate and the period of time that it will be paid can be set forth in a standard schedule. A compilation of information from such schedules for a geographically distributed list of states is shown in Figure 7–4. Workers' compensation legislation changes continually; therefore this figure is provided only as an example. Actual rates are subject to change continually.

Nonschedule injuries are less straightforward and must be dealt with on a case-by-case basis. Disabilities in this category tend to be the result of head injuries, the effects of which can be more difficult to determine. The amount of compensation awarded and the period over which it is awarded must be determined by studying the evidence. Awards are typically made based on a determination of disability percentage. For example, if it is determined that an employee has a 25 percent disability, the employee might be entitled

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to 25 percent of the income he or she could have earned before the injury with normal career progression factored in.

Four approaches to handling permanent partial disability cases have evolved. Three are based on specific theories, and the fourth is based on a combination of two or more of these theories. The three theories are (1) whole-person theory, (2) wage-loss theory, and (3) loss of wage-earning-capacity theory.

Whole-Person Theory

The **whole-person theory** is the simplest and most straightforward of the theories for dealing with permanent partial disability cases. Once it has been determined that an injured worker's capabilities have been permanently impaired to some extent, this theory is applied like a subtraction problem. What the worker can do after recuperating from the injury is determined and subtracted from what he or she could do before the accident. Factors such as age, education, and occupation are not considered.

Wage-Loss Theory

The **wage-loss theory** requires a determination of how much the employee could have earned had the injury not occurred. The wages actually being earned are subtracted from what could have been earned, and the employee is awarded a percentage of the difference. No consideration is given to the extent or degree of disability. The only consideration is loss of actual wages.

Loss of Wage-Earning-Capacity Theory

The most complex of the theories for handling permanent partial disability cases is the **loss of wage-earning-capacity theory**, because it is based not just on what the employee earned at the time of the accident, but also on what he or she might have earned in the future. Making such a determination is obviously a subjective undertaking. Factors considered include past job performance, education, age, gender, and advancement potential at the time of the accident, among others. Once future earning capacity has been determined, the extent to which it has been impaired is estimated, and the employee is awarded a percentage of the difference. Some states prescribe maximum amounts of compensation and maximum periods within which it can be collected. For example, in Figure 7–4, Alabama sets 300 weeks as the maximum period for collecting compensation on a nonschedule injury. Maryland, on the other hand, awards compensation for the duration of the disability. Scheduled disabilities are typically compensated for the duration in all states.

The use of schedules has reduced the amount of litigation and controversy surrounding permanent partial disability cases. This is the good news aspect of schedules. The bad news aspect is that they may be inherently unfair. For example, a surgeon who loses his hand would receive the same compensation as a laborer with the same injury if the loss of a hand is scheduled.

Permanent Total Disability

A **permanent total disability** exists when an injured employee's disability is such that he or she cannot compete in the job market. This does not necessarily mean that the employee is helpless. Rather, it means an inability to compete reasonably. Handling permanent total disability cases is similar to handling permanent partial disability cases except that certain injuries simplify the process. In most states, permanent total disability can be assumed if certain specified injuries have been sustained (i.e., loss of both eyes or both arms). In some states, compensation is awarded for life. In others, a time period is specified. Figure 7–5 shows the maximum period that compensation can be collected for a geographically distributed list of states. Notice in this Figure 7–5 that the time periods range from 401 weeks (Texas) to life (California and Wisconsin).

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Chapt 8

5. What are the terms that should guide the conduct of an accident investigation?
6. What role should the safety and health professional play in the conduct of an accident investigation?
7. List and explain the steps for conducting an accident investigation.
8. Why is it important to record all pertinent evidence relating to an accident immediately after an accident has occurred?
9. What can you do when taking close-up photographs to put them in the proper perspective?
10. List and differentiate among the three categories of witnesses to an accident.
11. Briefly explain the when and where of interviewing witnesses.
12. Briefly explain the how of interviewing witnesses.
13. What is the purpose of an accident report?

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CHAPTER 8

ACCIDENT INVESTIGATION AND REPORTING

Major Topics

- Types of Accident Investigations
- When to Investigate
- What to Investigate
- Who Should Investigate
- Conducting the Investigation
- Interviewing Witnesses
- Reporting Accidents
- Ten Accident Investigation Mistakes to Avoid

Dan Hartshorn defines an accident as "any unplanned event that causes injury, illness, property damage or harmful disruption of work process."[1]

When an accident occurs, it is important that it be investigated thoroughly. The results of a comprehensive accident report can help safety and health professionals pinpoint the cause of the accident. This information can then be used to prevent future accidents, which is the primary purpose of accident investigation.

The Society of Manufacturing Engineers (SME) describes the importance of thoroughly investigating accidents:

> The primary reason for investigating an accident is not to identify a scapegoat, but to determine the cause of the accident. The investigation concentrates on gathering factual information about the details that led to the accident. If investigations are conducted properly, there is the added benefit of uncovering problems that did not directly lead to the accident. This information benefits the ongoing effort of reducing the likelihood of accidents. As problems are revealed during the investigation, action items and improvements that can prevent similar accidents from happening in the future will be easier to identify than at any time.[2]

This chapter gives prospective and practicing safety and health professionals the information they need to conduct thorough, effective accident investigations and prepare comprehensive accident reports.

TYPES OF ACCIDENT INVESTIGATIONS

There are *accident reports* and there are *accident-analysis reports.* An **accident report** is completed when the accident in question represents only a minor incident. It answers the following questions: *who, what, where,* and *when.* However, it does not answer the *why* question.[3] An accident report can be completed by a person with very little formal investigation and reporting training or experience. Supervisors often complete accident reports which, in turn, might be used later as part one of a more in-depth accident report. The Occupational Safety and Health Administration's (OSHA's) Form 301 can be used for accident reports.

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Occupational Safety and Health for Technologists, Engineers, and Managers, Seventh Edition, by David L. Goetsch. Published by Prentice Hall.

An **accident-analysis report** is completed when the accident in question is serious. This level of report should answer the same questions as the regular accident report plus one more—*why*. Consequently, it involves a formal accident analysis. The analysis is undertaken for the purpose of determining the root cause of the accident. Accident analysis requires special skills and should be undertaken only by an individual with those skills. There are two reasons for this. First, the accident analysis must identify the actual root cause or the company will expend resources treating only symptoms or, even worse, solving the wrong problem. Second, serious accidents are always accompanied by the potential for litigation. If there might be legal action as a result of an accident, it is important to have a professional conduct the investigation even if it means bringing in an outside consultant.

How can safety and health professionals determine when an accident report is sufficient and when an accident-analysis report is called for? Accident reports are called for when the accident in question is a minor incident that did *not* result in any of the following circumstances: death, loss of consciousness, medical treatment beyond first aid, more than one additional day of lost work beyond the day of the accident, or any kind of modifications to the injured employee's work duties beyond those that might occur on the day of the accident.

Accident-analysis reports are called for when any of the following circumstances result from the accident in question: death, loss of consciousness, professional medical treatment beyond first aid, one or more days of lost work over and above any time lost beyond the day of the accident, or any modifications to the injured employee's work duties beyond those that might occur on the day of the injury.

WHEN TO INVESTIGATE

Of course, the first thing to do when an accident takes place is to implement **emergency procedures**. This involves bringing the situation under control and caring for the injured worker. As soon as all emergency procedures have been accomplished, the accident investigation should begin. Waiting too long to complete an investigation can harm the results. This is an important rule of thumb to remember. Another is that *all* accidents, no matter how small, should be investigated. **Evidence** suggests that the same factors that cause minor accidents cause major accidents.[4] Further, a near miss should be treated like an accident and investigated thoroughly.

There are several reasons why it is important to conduct investigations immediately. First, immediate investigations are more likely to produce accurate information. Conversely, the longer the time span between an accident and an investigation, the greater the likelihood of important facts becoming blurred as memories fade. Second, it is important to collect information before the accident scene is changed and before witnesses begin comparing notes. Human nature encourages people to change their stories to agree with those of other witnesses.[5] Finally, an immediate investigation is evidence of management's commitment to preventing future accidents. An immediate response shows that management cares.[6]

WHAT TO INVESTIGATE

The purpose of an **accident investigation** is to collect facts. It is not to find fault. It is important that safety and health professionals make this distinction known to all involved. **Fault finding** can cause reticence among witnesses who have valuable information to share. **Causes** of the accident should be the primary focus. The investigation should be guided by the following words: **who**, **what**, **when**, **where**, **why**, and **how**.

This does not mean that mistakes and breaches of precautionary procedures by workers go unnoted. Rather, when these things are noted, they are recorded as facts instead of

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faults. If fault must be assigned, that should come later, after all the facts are in. The distinction is a matter of emphasis. The National Safety Council (NSC) summarizes this approach:

> As you investigate, don't put the emphasis on identifying who could be blamed for the accident. This approach can damage your credibility and generally reduce the amount and accuracy of information you receive from workers. This does not mean you ignore oversights or mistakes on the part of employees nor does it mean that personal responsibility should not be determined when appropriate. It means that the investigation should be concerned with only the facts. In order to do a quality job of investigating accidents you must be objective and analytical. [7]

In attempting to find the facts and identify causes, certain questions should be asked, regardless of the nature of the accident. The SME recommends using the following questions when conducting accident investigations:

- What type of work was the injured person doing?
- Exactly what was the injured person doing or trying to do at the time of the accident?
- Was the injured person proficient in the task being performed at the time of the accident? Had the worker received proper training?
- Was the injured person authorized to use the equipment or perform the process involved in the accident?
- Were there other workers present at the time of the accident? If so, who are they, and what were they doing?
- Was the task in question being performed according to properly approved procedures?
- Was the proper equipment being used, including personal protective equipment?
- Was the injured employee new to the job?
- Was the process, equipment, or system involved new?
- Was the injured person being supervised at the time of the accident?
- Are there any established safety rules or procedures that were clearly not being followed?
- Where did the accident take place?
- What was the condition of the accident site at the time of the accident?
- Has a similar accident occurred before? If so, were corrective measures recommended? Were they implemented?
- Are there obvious solutions that would have prevented the accident? [8]

The answers to these questions should be carefully and copiously recorded. You may find it helpful to dictate your findings into a microcassette recorder. This approach allows you to focus more time and energy on investigating and less on taking written notes.

Regardless of how the findings are recorded, it is important to be thorough. What may seem like a minor unrelated fact at the moment could turn out to be a valuable fact later when all the evidence has been collected and is being analyzed.

Common Causes of Accidents

Hartshorn places many of the common causes of accidents in the following categories: **personal beliefs and feelings**, **decision to work unsafely**, **mismatch or overload**, **systems failures, traps**, **unsafe conditions**, and **unsafe acts**.[9] The common causes in each of these categories can help investigators determine the root cause of an accident.

Personal beliefs and feelings. Causes in this category include the following: individual did not believe the accident would happen to him or her; individual was working too fast, showing off, or being a know-it-all; individual ignored the rules out of contempt for authority and rules in general; individual gave in to peer pressure; and individual had personal problems that clouded his or her judgment.

Decision to work unsafely. Some people, for a variety of reasons, feel it is in their best interests or to their benefit to work unsafely. Hence, they make a conscious decision to do so.

Mismatch or overload. Causes in this category include the following: individual is in poor physical condition; individual is fatigued; individual has a high stress

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level; individual is mentally unfocused or distracted; the task required is too complex or difficult; the task required is boring; the physical environment is stressful (for example, excessive noise, heat, dust, or other factors); the work in question is very demanding—even for an individual in good physical condition; and individual has a negative attitude (for example, hostile, uncooperative, apathetic).

Systems failure. Causes in this category consist of the various errors management makes that are not grossly negligent or *serious and willful.* Common causes in this category include lack of a clear policy; lack of rules, regulations, and procedures; poor hiring procedures; inadequate monitoring and inspections; failure to correct known hazards; insufficient training for employees; rules that are in place but are not enforced; no rewarding or reinforcement of safe behavior; inadequate tools and equipment provided; production requirements set too high; inadequate communication to employees of safety concerns, statistics, and rules; poor safety management; no or insufficient job safety analysis; and insufficient management support for safety.

Traps. Poor design of workstations and processes can create *traps* that, in turn, lead to unsafe behavior. Common causes in this category include defective equipment; failure to provide, maintain, and replace proper personal protective equipment; failure to train employees in the proper use of their personal protective equipment; overly complicated and confusing controls; poorly laid out work area; mechanical lifting equipment that is inadequate for the jobs required of it; uncontrolled hazards that might lead to slips and falls; excessive reaching, bending, stooping, and twisting; excessive contact pressure, vibration, or force; awkward postures that result from poor workstation or tool design; excessive temperature extremes; insufficient lighting; and insufficient ventilation.

Unsafe conditions. Common causes in this category include the following: unsafe condition created by the person injured in the accident; unsafe condition created by a fellow employee; unsafe condition created by a third party; unsafe condition created by management; unsafe condition knowingly overlooked by management; and unsafe condition created by the elements (for example, rain, sun, snow, ice, wind, darkness).

Unsafe acts. Common causes in this category include the following: individual chooses to ignore the rules; people are involved in horseplay or fighting; individual uses drugs or alcohol; individual uses unauthorized tools or equipment; individual chooses an improper work method; individual fails to ask for information or other resources needed to do the job safely; individual forgets a rule, regulation, or procedure; individual does not pay proper attention; and individual uses improper body mechanics.

WHO SHOULD INVESTIGATE

Who should conduct the accident investigation? Should it be the responsible supervisor? The safety and health professional? A higher-level manager? An outside specialist? There is no simple answer to this question, and there is disagreement among professional people of goodwill.

In some companies, the supervisor of the injured worker conducts the investigation. In others, a safety and health professional performs the job. Some companies form an investigative team; others bring in outside specialists. There are several reasons for the various approaches used. Factors considered in deciding how to approach accident investigations include:

- Size of the company
- Structure of the company's safety and health program
- Type of accident
- Seriousness of the accident

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- Technical complexity
- Number of times that similar accidents have occurred
- Company's management philosophy
- Company's commitment to safety and health

After considering all the variables listed above, it is difficult to envision a scenario in which the safety and health professional would not be involved in conducting an accident investigation. If the accident in question is very minor, the injured employee's supervisor may conduct the investigation, but the safety and health professional should at least study the accident report and be consulted regarding recommendations for corrective action.

If the accident is so serious that it has widespread negative implications in the community and beyond, responsibility for the investigation may be given to a high-level manager or corporate executive. In such cases, the safety and health professional should assist in conducting the investigation. If a company prefers the team approach, the safety and health professional should be a member of the team and, in most cases, should chair it. Regardless of the approach preferred by a given company, the safety and health professional should play a leadership role in collecting and analyzing the facts and developing recommendations.

CONDUCTING THE INVESTIGATION

The questions in the previous section summarize what to look for when conducting accident investigations. Figure 8–1 lists five steps to follow in conducting an accident investigation.[10] These steps are explained in the following paragraphs.

Isolate the Accident Scene

You may have seen a crime scene that was sealed off by the police. The entire area surrounding such a scene is typically blocked off by barriers or heavy yellow tape. This is done to keep curious onlookers from removing, disturbing, or unknowingly destroying vital evidence. The same approach should be used when conducting an accident investigation. As soon as emergency procedures have been completed and the injured worker has been removed, the accident scene should be *isolated* until all pertinent evidence has been collected or observed and recorded. Further, nothing but the injured worker should be removed from the scene. If necessary, a security guard should be posted to maintain the integrity of the **accident scene**. The purpose of isolating the scene is to maintain as closely as possible the conditions that existed at the time of the accident.

Figure 8–1
Steps in conducting an accident investigation.