

# Compendium on Workmen's Compensation

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## Chapter 18

# Occupational Safety and Workmen's Compensation

The goal of preventing work-related injuries was one of the early motivating factors for workmen's compensation laws. Most States appointed investigative committees to consider the desirability of such statutes. A majority of their reports concluded that " \* \* \* a primary result of workmen's compensation legislation would be a reduction of injury frequency and severity."<sup>1</sup> In Massachusetts, the 1912 statute was entitled:

An Act Relative to Payments of Employees for Personal Injuries Received in the Course of Their Employment and to the Prevention of Such Injuries.

Accident prevention continues to be one of the major goals of workmen's compensation.

The causes of accidents need to be understood as a basis for evaluating the potential for corrective action by government, through workmen's compensation and safety standards legislation, and by various private groups.

### THE CAUSES OF INDUSTRIAL ACCIDENTS

The broad categories of causes of occupational accidents are behavioral and environmental. Unsafe personal behavior includes indifferent, reckless, or negligent attitudes; inadequate knowledge or skill; and careless or sloppy conduct or performance. Environmental factors cover unsafe physical conditions at the worksite<sup>2</sup> such as improper guarding, defective substances or equipment, intolerable noise, excessive speed, unsafe procedures, unsafe housekeeping facilities, or improper illumination, ventilation, or apparel. They also cover

stresses inherent in the work, the materials, or the natural setting.

The cause of an accident is rarely single or isolated. Although the immediate cause of an accident may be an individual's act, a well planned work environment might have prevented the act or moderated the effects. Similarly, an accident attributed to the environment can often be traced to an individual who should have designed a safe working place.

### Categorization Studies

Analysts who attempt to determine accident causes develop categorizations that tend to shape the policy and tactics of safety programs.

Environmental categories dominated the first two decades of the organized safety movement (1910-1930), marked by concern for environmental safety under supervision of the engineering profession. It is not coincidental that during this period the dominant thinking of management was that most internal business problems had engineering solutions.

Behavioral theories of accidents began to gain influence in 1931 when H. W. Heinrich reported the results of a study which represented that 88 percent of all accidents were caused primarily by unsafe acts.<sup>3</sup> Heinrich analyzed 75,000 cases from insurance company files and individual plant safety records. The meaning of his categorization is questionable as the only two causes assigned were unsafe acts and dangerous physical conditions. The emphasis of industrial safety shifted to human factors such as carelessness, boredom, and fatigue. An extreme of this behavioral approach is the now

largely discredited hypothesis that a small number of inherently accident-prone individuals account for a majority of all occupational accidents.

Most studies have concluded that accidents are associated with a combination of behavioral and environmental factors. W. Dean Keefer<sup>4</sup> reported on a National Safety Council study which found the following breakdown of accident causes:

18 percent due wholly to environmental factors,

19 percent due wholly to behavioral factors, and

63 percent due to a combination of these factors.

Keefer also reported on a study by the Pennsylvania Department of Labor and Industry<sup>5</sup> which indicated that:

3 percent of industrial accidents were due to mechanical causes,

2 percent were due to human factors, and

95 percent were due to a combination of factors.

R. P. Furniss<sup>6</sup> reported that during 1969 in Britain, 15.7 percent of industrial accidents could be attributed to environmental factors with the remainder due at least in part to behavior.

The ambiguity of such studies and results is a consequence of the difficulty of categorization and its dependence on the personal judgment of each analyst.

The relatively small number of accidents categorized as environmentally caused is questionable considering the marked differences in injury rates prevailing among industries. In 1968, the injury frequency rate was 14.0 for all manufacturing whereas the rate was 40.8 in coal mining, 26.9 in contract construction, 11.3 in trade, 6.9 in the Federal Government, and 2.0 in banking. If it be assumed that workers are somewhat similar among most industries, it is difficult to explain the large differences among industry injury rates except by environmental factors.

### Accident Proneness

"Usually 'accident proneness' is described as a combination of human abilities which make a person highly proficient in bringing about accidents, regardless of his environment, at a rate higher than could be statistically expected by chance

alone."<sup>7</sup> The view that a small percentage of workers had an unusually high injury rate was challenged by Dr. M. S. Schulzinger.<sup>8</sup> After studying 27,000 industrial and 8,000 nonindustrial injuries, he concluded that ". . . the widely accepted theory (1956) that most accidents are sustained by a small fixed group of 'accident-prone' individuals is open to question. On the basis of clinical experience and studies, the author suggests that most accidents are due to relatively infrequent solitary experiences of large numbers of individuals . . . the evidence indicates that if the period of observation is sufficiently long, the 'small groups of persons who are responsible for most accidents' is essentially a shifting group of individuals with new persons constantly falling in and out of the group."

This view was substantiated in a study by George Hagglund.<sup>9</sup> He found the related factors of youth and inexperience usually accounted for the higher accident rates ascribed to the "accident prone" worker. The implication is that certain workers may be prone to accidents, but not for psychological reasons. Aside from the common denominators of youth and inexperience, the usual common factor is an accident prone environment or activity.

### THE GOVERNMENT'S ROLE

Government safety programs sometimes are carrot-or-stick incentives—or both. The carrot is exemplified by the workmen's compensation insurance rates, on the principle that a good safety record will reduce costs for experience-rated employers.

The stick technique defines a safe work environment and penalizes employers who fail to provide it. This approach has been characterized by the use of fiats or standards by which a particular physical condition, such as unguarded machinery, is illegal.

The carrot allows each firm to choose its own method for insuring safety. This freedom of choice is thought by some to promote efficiency through flexibility and through minimizing the number of regulatory officials. Others feel that firms will not respond sufficiently or correctly, even if existing incentives are strong. Where this view prevails, the dominant role for government is the tough process of study, standards, and, if need be, penalties.



The incentives of the workmen's compensation system have been accompanied by State efforts to develop and enforce standards. The share of the Federal Government in this work is to be magnified by the Occupational Safety and Health Act of 1970, probably the most significant safety development in 60 years.

### **Workmen's Compensation Incentives for Safety**

The asserted safety incentive of workmen's compensation is based on the merit-rated pricing policy. "Merit rating" includes both the experience rating and retrospective rating systems. All State funds use merit rating of some sort. In most States, although private insurers are not required to rate employers on merit, they are permitted to. Under this procedure, the firm is charged a price that is related to the dollar amount of claims for which it is liable. Consequently a merit-rated firm has an incentive to reduce the amount of its claims through loss prevention measures.

The strength of this incentive has been challenged. Only about one-fourth of insured firms, usually large ones, are eligible for merit rating. The yearly accident record of firms with only a few employees is not a sufficiently reliable indication of their characteristic experience to be considered in establishing premium rates. On the other hand, merit-rated firms account for 85 percent of the dollar volume of premiums paid.<sup>10</sup> In addition, self-insured firms which pay approximately 14 percent of all benefits are implicitly merit rated. Nevertheless, if incentive effects are inherent in experience rating, they are not available to a large number of small firms and their employees.

Firms not eligible for merit rating are class rated. Under this procedure, all employers engaged in similar business operations within a State pay the same rate per \$100 of payroll. These employers have strong incentives to reduce the rates paid by their industry and may therefore exert efforts to reduce accidents within the industry. The only accident-prevention incentive generated for individual employers within an industry is that as poor risks, they may land in an assigned risk pool.<sup>11</sup>

Other problems, even under merit rating, moderate the incentive for safety. As benefit levels

do not reflect the full costs of accidents, the premiums paid are less than adequate; consequently, any savings from safety programs are proportionally minimized. A saving in premium costs could be a significant reward for success in accident prevention if benefits were higher because premiums would then more truly measure the cost of accidents at work. The higher the benefit levels, the larger the premium costs to be avoided and the larger the incentive for prevention.

Even for the merit-rated firm, the functional relationship between injury rates and premium levels is not as direct as might be desirable. The sensitivity of premium to accident experience is dependent on the firm's payroll. As firms increase in size, the premium rate more nearly reflects the individual firm's experience. It has been suggested that more credibility be assigned to the experience of smaller merit-rated companies to increase their safety incentives.

The premium rate for firms of all sizes is more dependent on the frequency rate than the severity rate on the assumption that loss frequency is more within the control of the employer. Thus, firms are encouraged to be more concerned with the number of accidents than with the consequences of accidents.<sup>12</sup> Some critics believe too much emphasis has been placed on loss frequency.

Merit rating suffers the further criticism that, since premiums are related to the level of claims paid, some firms may try to reduce costs by fighting claims rather than by preventing accidents.

Finally, workmen's compensation safety incentives have been questioned because the costs usually amount to little more than 1 percent of payroll and many feel that a firm is insensitive to any cost that small. The other costs of worker accidents (ch. 1), which are not insurable, provide even stronger incentives. In evaluating, this criticism, it should be remembered that the costs of workmen's compensation for employers in hazardous industries or with unsafe operations are much greater than 1 percent of payroll.

In their 1954 study of workmen's compensation, Herman and Anne Somers reached a conclusion, apparently still widely held, that "\* \* \* at the present time \* \* \* there is little evidence to indicate that any substantial connection exists between merit rating and prevention in most States."<sup>13</sup> Little serious research has been done on this ques-

tion. In one of the few quantitative studies of the subject, Monroe Berkowitz<sup>14</sup> was unable " \* \* \* to find any abrupt change in the trend [of injury rates] at the time when workmen's compensation statutes were enacted." Berkowitz did find that a significant portion of the changes in injury rates could be explained solely by changes in wages. He hypothesized that this relationship is due to an increase in human capital manifested by the wage increases. He found that in the stone quarry industry (1932-68), on average, a 10 percent increase in employee earnings was associated with a 1.5 percent decrease in the injury frequency rate. In the bituminous coal industry (1932-68), he found a similarly strong relationship. All manufacturing industries together (1926-58) exhibited an association such that a 10-cent increase in earnings coincided with a .07-point drop in injury frequency rates.<sup>15</sup>

As Berkowitz acknowledged, this finding does not prove that the increase in wages caused the decline in injuries. Furthermore, he noted that workmen's compensation may have had a role to play in reducing costs. Indeed he recommended that "the best features of experience rating be preserved and ways and means found to extend experience rating to all employers." Furthermore, in a later paper, he maintained that conceptually workmen's compensation should impel firms to operate at optimal level of accident prevention activities in a least-cost fashion. The task is to improve its functioning.<sup>16</sup>

### Use of State Safety Standards

The first modern American law regulating safety in the workplace was passed in Massachusetts in 1877. This law required that dangerous moving machinery be guarded. By 1910, most industrial States had some safety standards.<sup>17</sup>

Although most States have little or no coordination between workmen's compensation and safety standards, some provide for a system of penalties applied to compensation claims when impairment follows violation of a safety standard. If the employer violates the standard, he is required to give the employee additional benefits. If the injury results from an employee violation, his benefits are reduced.<sup>18</sup>

**Ineffectiveness of State standards.**—The strong consensus of testimony before Congress on

the 1970 Federal occupational safety legislation was that State standards usually are ineffective.<sup>19</sup> The source of this ineffectiveness typically is presumed to be inadequate regulatory resources rather than the inherent nature of such regulation.

The only quantitative examination of the effectiveness of safety regulation was conducted by Dr. Paul E. Sands<sup>20</sup> in the construction industry in Michigan and Ohio (1960-63). These States were chosen because Sands felt that they represented "opposite extremes insofar as the amount of government influence on and control of safety activities . . ." <sup>21</sup> In describing the situation in Ohio he noted: <sup>22</sup>

\* \* \* there is comprehensive safety legislation covering most of the phases of business activity, with a separate code for the construction industry.<sup>23</sup> These laws include provisions for enforcement along with a system of penalties. There are adequate personnel and funds to conduct the program, since a portion of the workmen's compensation premium paid by the employer is automatically set aside for this purpose. Of considerable importance is the fact that these regulations can be revised at periodic intervals which allows for flexibility under changing conditions and technology.

The Michigan regulatory environment was summarized as follows: <sup>24</sup>

\* \* \* for the period in which the statistics and information gathered for this project apply, Michigan had only an old law in effect that was passed in 1909.<sup>25</sup> Although there had been many minor revisions and additions, it still was relatively obsolete. The construction industry had no specialized safety code in force, and Michigan was the only large industrialized state where this situation existed. \* \* \* There were no really effective enforcement provisions and penalties to speak of in Michigan; such as existed were scattered throughout the act and were unclear. Employers had to allow government inspectors to enter their places of business, but accepting and acting upon their advice, directives, or recommendations was another matter altogether. One reason for this was that an insufficient amount of money had been provided for enforcement and administration of the law.<sup>26</sup> Not only had the funds that had been voted been relatively meager, they had also been uncertain and subject to change. \* \* \* In short, because of confusing enforcement provisions and inadequate financial backing Michigan had a relatively weak law.



The contrast between the two States is reinforced by an examination of the safety budgets and inspection staffs in each State. In testimony before the Senate Subcommittee on Labor<sup>27</sup> Jerome Gordon submitted calculations which showed that in 1965, Ohio's safety budget amounted to \$0.63 per nonagricultural worker while Michigan's allocation was \$0.20 per nonagricultural worker. The number of safety inspectors per 100,000 population of working force age came to 1.3 in Ohio and 0.6 in Michigan. It should also be noted that the workmen's compensation penalty system described above operated in Ohio but not in Michigan.

Rather than rely on published statistics, which he found to be inaccurate, Sands personally gathered data from 25 construction firms in each State. After analysis of these data, he concluded that, " \* \* \* the construction safety legislation and the safety services and enforcement provided by the State government in Ohio do not result in a significantly lower rate of injuries or seem to promote increased safety precautions."

Whether the safety standards approach is effective in any State or whether it could be effective if administered with sufficient resources are yet unanswered questions. Although based on only two States, one industry, and 50 firms, Sands' study certainly raises doubts about the potential effectiveness of government regulation of safety by the standards method.

### The Federal Role

Historically, the Federal Government has had a limited role in occupational safety and health. Its activity has included regulation of specific industries such as maritime and mining,<sup>28</sup> compulsory safety standards for government contractors,<sup>29</sup> limited data collection,<sup>30</sup> and technical assistance.<sup>31</sup> For many years before 1969, legislation with universal safety standards had been proposed but ignored. In 1951, Senator Hubert H. Humphrey introduced legislation with compulsory national health and safety standards. In 1968, when President Lyndon B. Johnson offered a program of standards, it was not passed by the Congress. In 1969, different bills were proposed by Congressman James O'Hara,<sup>32</sup> Senator Harrison William,<sup>33</sup> and by Congressman William Ayers and

Senator Jacob Javits in behalf of the Nixon administration.<sup>34</sup>

The bills were similar in that they were all based on the principle of compulsory Federal standards. The areas of debate centered on the "general duty" obligation of employers for safety on the job, the rights of employers and employees to accompany inspectors, the procedures for plant closings where an "imminent danger" is found, the requirement for citation and posting of violations and the authority selected to administer the program.<sup>35</sup>

This disagreement produced a compromise bill entitled the Occupational Safety and Health Act of 1970.<sup>36</sup> The law, covering virtually every worker in the country (The only exceptions are jobs covered by other Federal safety legislation, plus Federal, State, and local government employees. Public employees could be covered if the State qualifies to administer the program under Section 18.) has both punitive and remedial measures which attempt to improve occupational safety and health. These measures include: development and promulgation of mandatory standards; enforcement of these standards; research in occupational safety and health; training programs to increase the number and competence of personnel throughout government and the private sector; and mandatory recordkeeping and reporting procedures.

**The Federal standards.**—In calling for safety and health standards, the Congress recognized that because the issues were complex and ever changing, it could not legislate a specific list of standards. It set up the machinery for developing standards and a procedure for future changes. The clearly dominant principle in this process is to gain the involvement and commitment of as many groups as possible for the promulgation of each type of standard.

In order to affect quickly the safety of work places, the Labor Department was authorized to issue rules based on existing Federal standards and on consensus. The existing Federal standards are those such as under the Walsh-Healey Act and the Construction Safety Act. Consensus standards are those developed by private organizations under procedures in which diverse groups participated and concurred in their adoption. The major sources of these standards are the American National Standards Institute, Inc., a voluntary, nonprofit organization with representation from scientific,

technical, trade, professional, consumer, and labor organizations and the National Fire Protection Association, a similar private group.

The procedure for development of new standards or revisions to old standards can be initiated by any interested party. After a proposal is received by the Labor Department, it is announced in the Federal Register. The announcement can be made either immediately or after an advisory committee has assessed the standard. Any interested party may then request a public hearing. The Labor Department will either issue or reject the standard after the completion of a public hearing, if one is called for. The Labor Department also may directly issue temporary emergency standards. This emergency procedure is not intended to be used to avoid the regular standards setting process.

In addition to these specific standards, the act states that it is the general duty of each employer to furnish " \* \* \* each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause, death or serious physical harm to his employees."<sup>37</sup> Although this provision may appear to be a pious affirmation of the obvious, more than one-half of the first 60 violation charges filed for review were based on this clause.<sup>38</sup> It is unknown, of course, whether the general duty clause will continue to be as important after specific standards are affirmed.

**Enforcement.**—Enforcement of the standards developed under the act will be the responsibility of the Labor Department. The Department is required to conduct repeated inspections without advance notice. Both employer and employee representatives may accompany the inspector.

A special inspection may be requested by any employee or employees' representative if he fears a condition threatens physical harm. If the Department finds reasonable support for this belief, it must honor the request for a special inspection.

If a violation is found during any inspection, a written citation describes the violation and sets a deadline for correction. The citation must be posted at or near the violation site. Monetary penalties are authorized for each serious or continuing violation.

To appeal a citation or penalty, an employer must notify the Labor Department, which notifies

the Occupational Safety and Health Review Commission, an independent government agency. This Commission's only function is the review of appeals from the Labor Department's citations and penalties; it has no regulatory powers. Upon receipt of an appeal, the Commission assigns an examiner to conduct a hearing. The examiner's decision automatically becomes the final order of the Commission unless one of the three Commissioners appointed by the President directs a further review. Decisions of the Commission can be appealed to the U.S. Court of Appeals.

The Labor Department also has special enforcement provisions in situations of imminent danger. An imminent danger is defined in § 13(a) as

\* \* \* conditions or practices \* \* \* such that a danger exists which could reasonably be expected to cause death or serious physical harm immediately or before the imminence of such danger can be eliminated through the enforcement procedures otherwise provided by this act.

Once an imminent danger is discovered, the inspector first informs the employer and the affected employees. The Labor Department then petitions a U.S. district court for a restraining order to close the plant until the hazard is corrected. The restraining order must be limited to 5 days. If, at the end of this time, corrective measures have not been taken, the Labor Department may petition for an extension of the Court's order. Organized labor wanted to give the inspector authority to close a plant in situations of imminent danger instead of the court procedure.

**Research and training.**—The act directs the Department of Labor and Department of Health, Education, and Welfare to conduct educational programs in occupational safety and health with the aim of assuring a sufficient number of well qualified professional specialists and enforcement personnel. The departments must also help employers and employees to recognize and reduce occupational hazards.

The departments also were given a mandate broad enough to authorize research in any aspect of occupational safety and health, with specific provision of criteria for new and improved standards, studies of psychological aspects of occupational safety and health, and epidemiology of



latent diseases associated with occupational stresses.

**Recordkeeping and statistics.**—One of the deficiencies disclosed by the 1970 safety legislation hearings was the inadequacy of the data on occupational impairments. A study commissioned by the Labor Standards bureau<sup>39</sup> found that the work-injury survey suffered from insufficient funding, a trained manpower shortage, a limited sample of volunteer firms, and a confusing set of definitions. The study estimated that, as a result, 8 percent of disabling (lost worktime) injuries were unreported each year.

The same study found that, since the work-injury survey is limited to disabling injuries, serious injuries which were not disabling never are reported<sup>40</sup> though they are 10 times as frequent as disabling injuries. Dr. Sidney Wolff of the Health Research Group asserts that inadequate reporting of occupational disease is an additional source of inaccuracy.

Because of the importance of accurate data as a measure of progress and as a guide to strategic planning, the act mandates comprehensive recordkeeping requirements. Each covered employer must maintain a log of all injuries and illnesses, whether or not they cause a loss of time from work, including even minor injuries involving either a loss of consciousness, medical treatment other than first aid, or transfer to another job. Employers are required also to maintain records of an employee's exposure to potentially toxic materials or other harmful physical agents. Each employer is required to post a summary of this log so that it is readily available to all employees.

The Department of Labor has initiated a new injury and illness statistics program based on reports from a sample of covered firms. For one year the Department will use both the former system for collecting selected data and the new comprehensive program in an effort to establish a base of comparison between the data from past years and the data expected in the future. It is hoped the collection of data will improve means of evaluating the effectiveness of Federal safety standards.

**The State role under the 1970 act.**—The act encourages States to assume responsibility for administration and enforcement of the new safety and health law by means of grants for plan-

ning, research, and operating. In order to qualify for this responsibility, a State must develop and obtain Department approval of a plan for administering and enforcing the law. Of the several criteria for approval, the most critical appears to be the adoption and enforcement of standards which are at least as strict as the Federal. Other criteria include an enforcement agency, effective provisions for inspection without advance notice, adequate funding, comprehensive programs for public employees, and proper reporting procedures. Even after a State's plan is approved, the Labor Department may continue to enforce the Federal program in the State. This Federal operation will continue until the Labor Department is satisfied that the State program satisfies the criteria. As the requirement for Labor Department approval persists, State authority to administer safety programs can be revoked at any time. After December 29, 1972, all States will either have an approved plan or lose jurisdiction over areas covered by Federal standards.

**Conclusions on the Federal role.**—At least one scholar remains skeptical of the Act's potential.<sup>41</sup>

There is a great deal to be said for the Occupational Safety and Health Act. The notion of enlarging our knowledge about the effective levels of dust emission, or other aspects of occupational disease, is unassailable. We will learn a good bit about appropriate standards, and we should have an improved source of accident information. However, nothing in our experience with recordkeeping laws, inspection procedures, or other government regulatory agencies would seem to support the notion that this law will be administered efficiently or financed adequately. Time passes, enthusiasm diminishes, interest groups alone have staying power and this agency, too, may go the way of the ICC, the FCC, or the State safety laws.

Some of the standards have already been challenged as unrealistic or inappropriate and in mid-1972, despite union opposition, Congress was seriously considering excluding small employers from the act.<sup>42</sup>

Regardless of its outcome, the act is clearly the most significant change in government's role toward industrial safety since the adoption of workmen's compensation.



## PRIVATE ACTIVITIES IN ACCIDENT PREVENTION

Accident prevention is so sacred an issue that each group claims to be doing everything possible.

### Insurers

Insurance companies usually have safety departments to serve their customers with information on new developments and techniques. About 8,000 safety experts are employed by the insurance companies.<sup>43</sup> Of the total amount of standard premiums collected, insurance companies budget 1.3 percent for prevention services.<sup>44</sup> Williams concluded the average private insurer provides better safety services than the average State fund.<sup>45</sup> Insurance companies promote safety services and research also through associations which maintain cooperative relationships with trade associations and professional societies.

### Employers

In addition to the accident-prevention activities of insurers, employers allocate their own resources for safety. As noted earlier, they make this commitment not only to reduce insurance premiums and avoid safety code violation penalties but also to avoid the other costs of accidents. These costs include delay and disruption to work processes, depressed morale, hiring and training costs of replacements, and payment of wages sufficient to induce people to accept the risk of injury. Some contend that, in addition to the prevention motivation by these economic factors, employers prevent injuries for humanitarian reasons.

The degree of safety in the workplace as characterized by the injury frequency rate varies substantially with the size of the firm. As indicated by the 1970 Bureau of Labor Statistics data on manufacturers, the smallest (1 to 19 employees) and largest (more than 2,500 employees), establishments have the lowest frequency rates. Firms with 100 to 500 employees have the highest frequency rates. The 1970 Bureau of Labor Statistics, Work-Injury Survey indicated the following injury frequency rates by firm size for manufacturers:

Number of employees	Injury frequency rate	Number of employees	Injury frequency rate
1 to 19.....	11.4	200 to 499.....	24.3
20 to 49.....	18.5	500 to 999.....	20.9
50 to 99.....	22.8	1,000 to 2,499.....	13.0
100 to 249.....	25.2	2,500 or more.....	9.6

Trade associations also are active in the promulgation of safety knowledge within their industries.

### Unions

Accident prevention activities of unions operate in association with government and with private groups such as employers and equipment manufacturers. With organized firms, the unions have often negotiated supplemental workmen's compensation benefits. Within the plant, unions also negotiate safety rules and the formation and operation of labor-management safety commissions. In situations where workers frequently change employers, as in the construction industry, unions often work with equipment manufacturers to improve job safety. Unions lobby for increased workmen's compensation benefits and more extensive and vigorous use of government safety standards. About one-half of the witnesses appearing before the Senate committee investigation on the 1970 safety legislation were associated with labor organizations.

### Other organizations

Several organizations represent a coalition of efforts in occupational safety. In addition to safety consulting firms, there are nonprofit organizations such as the National Safety Council and the Industrial Hygiene Foundation of America, Inc. Such organizations, both profit and nonprofit, offer services such as technical assistance, education, and research designed to reduce the number of accidents.

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