

CONSTRUCTION SAFETY AND HEALTH: PROGRAM AND POLICIES

MAJOR TOPICS

- Rationale for Written Safety and Health Plans
- Components of the Plan
- Communicating the Plan to Employees
- Evaluating the Program

There is disagreement among construction professionals concerning the value of written safety plans. "Time spent writing safety plans could be put to better use at the jobsite." This is a frequently heard criticism in the profession. When the topic of discussion is written safety plans, such terms as "red tape," "bureaucracy," "paperwork," and "counterproductive" often find their way into the conversation. However, there is hard factual evidence to support the opposite point of view. This evidence makes it clear that well-written safety plans can prevent accidents, injuries, illnesses, and associated expenses that can drain a company's productivity as well as its profits.

RATIONALE FOR WRITTEN SAFETY AND HEALTH PLANS

There are several reasons why construction companies should devote the resources necessary to develop and maintain comprehensive written safety and health plans. These reasons range from the philosophical to the practical and all fall into one of the following broad categories:

Ethical Factors

Philosophically speaking, the most important rationale for having a comprehensive, written safety and health plan is because it is the right thing to do. Construction companies have an ethical obligation to provide the safest, healthiest possible work environment for their employees and subcontractors. One of the best ways to ensure a quality work environment is to have a comprehensive written plan. This can be seen in the fact that companies without such a plan experience 30 percent more accidents than those with plans.

Regulatory Factors

There are federal and state regulations that require construction companies to maintain a safe and healthy work environment. These regulations do not necessarily require a comprehensive written plan, although some federal regulations do require written plans that focus on specific issues, including the following:

- Fall protection plan (29 CFR1926.500)
- Emergency action plan (29 CFR1926.35)
- Bloodborne pathogens and exposure control plan (29 CFR1910.1030)

Although a company may comply by developing only the written plans that are specifically called for in regulations, a more comprehensive approach is better because comprehensive written plans do more than comply, they help establish and maintain a high-quality work environment. The recommended approach is to develop a comprehensive master plan that includes plans relating to specific terms as components.

Economic Factors

An unsafe, unhealthy work environment is a costly environment. Accidents and injuries are directly and indirectly expensive. The undeniable fact is that it costs less to maintain a high-quality work environment than to pay for accidents and injuries. A good safety and health plan that is effectively implemented can save money in a number of different ways, including the following:

- Holding down insurance costs
- Reducing costly litigation
- Reducing temporary and permanent disability claims
- Increasing the productivity of employees
- Leading to more contracts (good reputation)
- Reducing the number of compliance inspections and associated penalties

Practical Factors

The practical reason for having a comprehensive written plan is that effectively implementing such a plan is the best

way to establish a high-quality work environment. The practical reasons for this include the following:

- The plan forces construction companies to put their commitment to safety and health in writing.
- The plan forces construction companies to establish policies and set goals for safety and health.
- The plan commits to writing the procedures that must be followed by all employees and subcontractors.
- The plan is an effective way to communicate policies, procedures, and goals related to the quality of the work environment.

COMPONENTS OF THE PLAN

To be effective, a construction safety and health plan must be written and it must be comprehensive. There are no regulatory requirements governing the specific contents of a construction safety and health plan. However, if one accepts the full counsel of federal and state regulations, a plan should have at least the following components:

- Safety and health policy
- Safety and health goals
- Roles and responsibilities
- Discipline policy and procedures
- Job site inspections
- Accident investigations
- Record keeping
- Training
- Medical response and first aid
- Emergency response
- Miscellaneous components (e.g., fall protection, blood-borne pathogens).

A written plan with these components is a comprehensive plan with all of the company's various safety and health plans contained in one document.

Safety and Health Policy

Management commitment to safe and healthy job sites is critical. Evidence of management commitment is a written safety and health plan, and the most important component of such a plan is the safety policy. In addition to the policy, a set of specific goals that translate the policy into measurable actions should be included.

A safety policy is a statement of management's commitment to a high-quality work environment. To emphasize the commitment, it should be signed by the company's chief executive officer. A well-written safety policy communicates at least the following messages (Figure 12-1):

- The company is committed to providing a safe and healthy work environment and such an environment is a high priority.

Safety and Health Policy: Jones Construction Company

Jones Construction Company (JCC) is committed to providing a safe and healthy work environment for all employees and subcontractors. Consequently, no other factor is to take priority over safety and healthy on JCC job sites. All employees at levels and all subcontractors are expected to work safely themselves and to encourage their fellow workers to do so. All are expected to comply with applicable safety rules and regulations and to speak out when others break them.

JCC provides employees with the knowledge (training) and equipment (such as hard hats, safety glasses) needed to work safely. Employees, in turn, are expected to apply their training and use their equipment to do their jobs safely. All JCC employees should "think safety" at all times and when in doubt, err on the side of safety.

Chief Executive Officer

FIGURE 12-1 Construction companies should develop and adopt a safety and health policy.

- All employees are expected to work in a safe and healthy manner.
- Safety and health rules and regulations are enforced.

Safety and Health Goals

The safety and health policy describes management's commitment in general terms. Safety and health goals then take the next step and describe the commitment in more specific and measurable terms. Like any goals set by a company, the safety and health goals should be lofty enough to challenge the organization but realistic enough to be credible. Goals set too low are viewed as "low-balled" goals that are not worthy of attention or effort. Goals set too high are viewed as "pie-in-the sky" goals that cannot possibly be attained and, therefore, have no credibility. Figure 12-2 contains examples of the types of goals that construction companies might include in their safety and health plans. Each of these goals is explained in the paragraphs that follow.

It is necessary to have a goal relating to fatalities because no company wants to have a fatal accident; yet, such accidents are always a possibility. Since this is the case, the only acceptable goal relating to fatalities is "zero." Few construction executives are going to want to publish a safety and health plan that implies acceptance of even one fatal accident. Reduction of job-related injuries should also be considered a mandatory goal. Few construction companies are going to maintain a perfect safety record over time. As long as there are people working together to meet deadlines, there will be accidents and injuries. The question, then, becomes "how many?" The answer has got to be "as few as possible." The percent of

Safety and Health Goals: Jones Construction Company
Zero fatal accidents during the year.
Reduce job-related injuries by 25%.
Reduce lost time due to accidents by 40%.
Reduce workers' compensation claims by 30%.
Reduce the cost of damage to JCC property and equipment by 20%.
Reduce "near miss" accidents by 25%.
Increase participation of employees in safety training to 100%.

FIGURE 12-2

reduction that accompanies this goal depends on the company's current safety record and how much it can be realistically improved if the company is appropriately challenged.

This same rule of thumb applies to goals relating to lost time for accidents, workers' compensation claims, and near miss accidents. With all of these goals, it is important to avoid both the "low-ball" and the "pie-in-the-sky" syndromes. Striking a realistic balance between being sufficiently challenging on the one hand and fully credible on the other hand is the key. If, for example, the company had 100 workers' compensation claims last year, reducing this number by 75 percent might be unrealistic. On the other hand, reducing it by 40 percent would be challenging and might be sufficiently realistic.

Goals relating to training are similar to those relating to fatal accidents. If a company is going to set a goal in this area, it must be set high. Otherwise, the wrong message is sent. A 100 percent participation rate is required; to set the goal lower is to say that the company accepts the fact that employees might be working in a potentially hazardous situation without the proper training.

Responsibility and Roles

Everyone has a role to play in maintaining a safe work environment. This part of the comprehensive safety and health plan sets forth the responsibilities of managers, supervisors, safety and health professionals, and employees. It also explains how employees at all levels are held accountable for carrying out their responsibilities and what happens when they fail to do so.

Management's Responsibilities. The management's responsibilities include the following:

- Establishing and maintaining the company's commitment to safety and health
- Developing safety and health policies
- Setting goals
- Providing the necessary resources
- Setting a positive example

- Organizing, directing, controlling, evaluating, and revising the overall safety and health program

Supervisors' Responsibilities. Supervisors play a key role in maintaining a quality work environment. They represent the level of management closest to employees and subcontractors on a day-to-day basis. Consequently, supervisors carry the primary responsibility for ensuring that employees do the following:

- Comply with all applicable rules and regulations
- Put safety ahead of other factors (without using it as an excuse for not getting the job done)
- Attend periodic safety meetings and discussions
- Participate in safety training
- Properly use personal protective equipment
- Promptly report accidents and near misses
- Do the necessary "housekeeping" chores every day
- Maintain a positive attitude toward safety
- Speak out when other employees are engaging in unsafe practices

Employees' Responsibilities. Employees may play the most important role of all in maintaining a quality work environment. This role involves working safely themselves and insisting that their fellow employees do the same. Specifically, employees are responsible for doing the following:

- Complying with all applicable safety rules and regulations
- Following instructions from managers, supervisors, and safety professionals
- Asking questions to clarify when in doubt about a course of action
- Calling hazardous conditions to the attention of the supervisor or safety professional
- Reporting all accidents and near misses to the supervisor or safety professional
- Reporting damage to company property and equipment to the supervisor
- Performing all necessary housekeeping chores promptly and regularly
- Having a positive attitude toward safety

Safety Professionals' Responsibilities. Many medium-sized and larger construction companies employ one or more safety and health professionals and assign them responsibility for directing, coordinating, and facilitating the company's overall safety and health program. Specific duties include the following:

- Safety audits
- Job-site inspections
- Hazard analysis
- Accident investigations

SAFETY FACTS & FINES

Written procedures that explain the safe and healthy way to perform a dangerous task are important. Failure to provide written work procedures can have disastrous results. A company in Moss Point, Mississippi, was fined \$118,500 when a worker was killed by the accidental release of toxic gas during the introduction of a new process. The company was cited for the following violations: (1) exposure of employees to toxic fumes and (2) lack of written procedures.

- Record keeping
- Reporting
- Training

Discipline and Accountability

Accountability is a critical component in a company's safety and health program. It is not enough to simply have rules and explain them. There must be consequences for failure to follow the rules and regulations. Consequences are set forth in the *discipline policy* section of the comprehensive safety and health plan. A plan without a discipline component is a plan without "teeth."

The discipline policy should explain that all employees at all levels are expected to adhere to applicable safety and health rules and regulations, that the "safe way" is the right way, and that, when in doubt, employees should err on the side of safety. The policy should then set forth the disciplinary consequences for failing to comply. Figure 12-3 is an example of a properly written discipline policy.

In Figure 12-3, Jones Construction Company (JCC) reserves the right to terminate an employee immediately for a flagrant violation. This is both well-advised and legal. With nonflagrant violations, the company's policy follows the established legal standard for progressive discipline. This means that employees may commit minor violations without being immediately terminated. However, it also means that each violation results in a step being taken up the disciplinary ladder, and this ladder goes only one way. With progressive discipline, minor offenses are cumulative. Since they are recorded in the employee's file they never go away; at least not in Jones Construction Company. Some companies adopt a "second-chance" policy that allows an employee to erase a minor violation by working for an established period of time without any kind of violation.

Such policies are left to the discretion of the individual company. The benefit of such a policy is that it adds a carrot to the stick when dealing with minor offenders. On the other hand, it has the potential to undercut the credibility of the discipline policy if employees see the second-chance option as being too forgiving. Consequently, when second-chance options are built into the discipline policy they should be sufficiently difficult to challenge minor offenders. For example, consider the following sample of a second-chance option:

Minor offenses may be removed from the employee's personnel file at a rate of one offense removed for every 6 months of uninterrupted work without a violation and the completion within that same period of at least 8 hours of safety training on the employee's unpaid time.

Job-Site Inspections

Job-site inspections are an important component of a company's overall safety and health program. They represent a proactive approach to ensuring a high-quality workplace by identifying hazardous conditions and eliminating them before they cause accidents and injuries. The safety audit is an effective way to conduct an on-site inspection. It involves creating a checklist that is tailored to the specific job site and using it as a guide when conducting the audit. Job-site inspections are typically conducted by the company's safety and health professional. However, supervisors can also conduct audits using checklists prepared by the safety professional. In smaller companies, supervisors prepare the checklist and conduct the audit.

Figure 12-4 is an example of an audit checklist for a job-site inspection. This is a comprehensive checklist. Not

Discipline Policy
Jones Construction Company

At JCC, the safe way is the right way. All employees and subcontractors are expected to follow applicable company rules as well as local, state, and federal regulations. Failure to do so will lead to disciplinary action as follows:

- **Termination**
The JCC reserves the right to terminate immediately any employee who fully or flagrantly endangers themselves, others workers, or company property through unsafe behavior.
- **Verbal Warning (First violation)**
Nonflagrant first violations result in a verbal warning accompanied by an appropriate notation in the employee's personnel file.
- **Written Warning (Second violation)**
Nonflagrant second violations result in a written warning, a copy of which is placed in the employee's personnel file.
- **Suspension (Third violation)**
Nonflagrant third violations result in suspension without pay for a period of 1 week (5 full work days).
- **Dismissal (Final violation)**
The next violation after a suspension results in immediate termination.

FIGURE 12-3

Audit Checklist Job Site Inspection	
Job Site _____	Date _____
Check only those areas where problems exist. Then write an explanation of the hazardous condition that exists and what should be done to correct it. Attach explanation to this checklist.	
<input type="checkbox"/>	Housekeeping
<input type="checkbox"/>	Personal protective equipment
<input type="checkbox"/>	First-aid/medical services
<input type="checkbox"/>	Sanitation
<input type="checkbox"/>	Noise
<input type="checkbox"/>	Radiation (ionizing)
<input type="checkbox"/>	Radiation (non-ionizing)
<input type="checkbox"/>	Gases, vapors, fumes, dust, mists
<input type="checkbox"/>	Illumination
<input type="checkbox"/>	Ventilation
<input type="checkbox"/>	Safety belts, lifelines, lanyards
<input type="checkbox"/>	Safety nets
<input type="checkbox"/>	Fire protection/prevention
<input type="checkbox"/>	Signs, signals, barricades
<input type="checkbox"/>	Material handling, storage, disposal
<input type="checkbox"/>	Hand tools/power tools
<input type="checkbox"/>	Welding and cutting
<input type="checkbox"/>	Electrical issues
<input type="checkbox"/>	Motorized vehicles, mechanical equipment, and machinery
<input type="checkbox"/>	Excavations
<input type="checkbox"/>	Concrete/masonry work
<input type="checkbox"/>	Steel erection
<input type="checkbox"/>	Demolition/blasting
<input type="checkbox"/>	Stairways and ladders
<input type="checkbox"/>	Other

FIGURE 12-4 Checklists like this one can improve job site inspections.

every item necessarily applies to every job site. In addition, this checklist assumes in-depth knowledge on the part of the person using it. Every item on this checklist could have a comprehensive subchecklist developed for it.

Accident Investigations

How accident investigations are conducted and by whom should be explained in the company's comprehensive safety and health plan. A typical division of labor is to have supervisors conduct the investigations because they are closest to the work and to employees and to provide supervisors with a standard form developed by a safety and health professional. A simple statement in the plan such as the following example is all that is necessary:

Supervisors are required to conduct a detailed investigation whenever an accident occurs in their area of responsibility. Supervisors may and should contact the company's safety and health manager for advice and assistance. The standard accident investigation form is to be used.

Part of a supervisor's safety training should involve learning how to conduct comprehensive accident investigations and complete the necessary form. Accident investigation is covered in greater depth in Chapter 14.

Record Keeping

The responsibility for record keeping is typically assigned to the company's safety and health professional in larger companies and to a designated employee in smaller companies. This component in the comprehensive safety and health plan should explain who is responsible for record keeping and what forms are to be used. Record keeping is explained in greater depth in Chapter 14. A statement such as the following sample is all that is necessary in the plan:

Jones Construction Company follows the latest OSHA regulations relating to record keeping. Accurate, comprehensive records of recordable injuries and illnesses are maintained and evaluated to identify trends and other causal data that can be used in their prevention. A summary of all recordable accidents and injuries is developed annually. This form is submitted to OSHA as required and posted for the information of all employees (as required by OSHA).

Training

No aspect of a comprehensive safety and health plan is more important than the training component. Safety training should

SAFETY FACTS & FINES

When companies add new processes that are potentially harmful to the environment they need to do more than just update their safety and health goals. Securing the proper permits from appropriate regulatory agencies and installing the necessary pollution control equipment are also important. A company in Portland, Oregon, was fined \$11.2 million by the Environmental Protection Agency when it failed to secure the necessary permits and failed to install the necessary pollution prevention equipment before beginning new, potentially harmful processes. The fine applied to 13 different plants in four states. This is the largest fine ever assessed for violations of the Clean Air Act.

Communication is always an imperfect process no matter how hard the company tries. Some employees do not listen well. Some don't pay attention. Others do not like to read. Consequently, when trying to communicate about the safety plan, it is important to build in repetition and use a variety of media. These strategies can be used to communicate with employees about the safety and health plan:

- Face-to-face meetings
- Bulletin board notices
- "Chalk talks" convened by supervisors at the beginning of a shift
- New employee orientations
- Audiotapes that can be played while driving to and from work
- Videotapes
- Newsletters, memoranda, and bulletins
- Signs and posters
- Setting a positive example (the best way to communicate the importance of safety)

EVALUATING THE PROGRAM

The Deming cycle is shown in Figure 12-6. It was developed by W. Edwards Deming, the quality expert who helped Japanese manufacturers become dominant players in the global marketplace.¹ The cycle shows the relationship between planning, implementing, and evaluating. Step 1 (Plan) involves development of the comprehensive safety and health plan, as described in this chapter. Step 2 (Do)

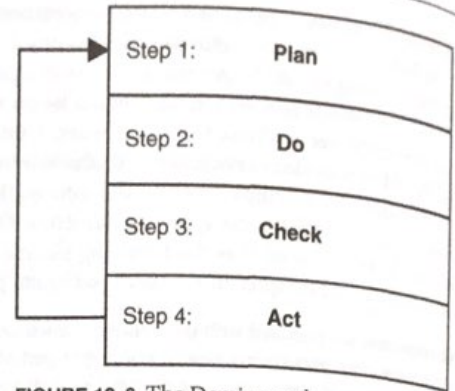


FIGURE 12-6 The Deming cycle.

involves implementing the plan so that it becomes an actual functioning program. Step 3 (Check) involves conducting periodic evaluations to determine the effectiveness of the program. Step 4 (Act) involves acting on what is learned from the evaluation in such a way as to strengthen the program. After completing Step 4, the cycle repeats continually.

Evaluation Checklist

A checklist, such as the one in Figure 12-7 may simplify the evaluation process. Notice that this checklist mirrors the contents of the comprehensive safety and health plan: it makes no sense to plan and implement one thing and evaluate another. Checklists such as this one are used to evaluate the content of the safety and health program and its associated processes, rather than its performance. Evaluating the performance of the program is covered in later chapters.

The only correct response to all of the following questions (that apply) is "Yes."

Therefore, check only those questions that must be answered "No."

Safety and Health Policy

- 1. Is there a written safety and health policy signed by the chief executive officer?
- 2. Does the policy state clearly that the company is committed to providing a safe and healthy work environment?
- 3. Does the policy state clearly that all employees are expected to work in a safe and healthy manner?
- 4. Does the policy state clearly that safety and health rules are enforced?

Safety and Health Goals

- 5. Is there a goal relating to fatalities?
- 6. Is there a goal relating to lost time due to accidents?
- 7. Is there a goal relating to workers' compensation claims?
- 8. Is there a goal relating to property damage?

- 9. Is there a goal relating to "near miss" accidents?
- 10. Is there a goal relating to participation of employees in safety training?
- 11. Is there a goal relating to the "safety image" of the company?
- 12. Are goals tied to a specific year?
- 13. Are goals updated every year?

Responsibilities and Rules

- 14. Are the responsibilities of management described in writing?
- 15. Are the responsibilities of supervisors described in writing?
- 16. Are the responsibilities of employees described in writing?
- 17. Are the responsibilities of safety professionals described in writing?

Discipline and Accounting

- 18. Is there a written discipline policy?
- 19. Does the policy describe the company's right of termination?

FIGURE 12-7

20. Does the policy describe the progressive discipline process for minor violations?
- Job-site Inspection**
21. Has a comprehensive audit checklist been developed for job-site inspection?
22. Are job-site inspections conducted on a regular basis?
23. Are written reports made listing all discrepancies identified and the necessary follow-up actions?
24. Are written reports used to correct discrepancies identified?
25. Are written reports available to any employee who wants to see them?
- Accident Investigations**
26. Has a standard accident investigation form been developed?
27. Are all accidents and illness investigated promptly?
28. Are all "near miss" accidents investigated?
29. Are investigations conducted whenever equipment is damaged in an incident or accident?
30. Are accident reports filled out for all incidents?
31. Are actions taken to prevent future incidents?
32. Are accident reports monitored to identify trends?
33. Are trend data used to prevent future incidents?
34. Are accident reports made available to employees who wish to view them?
- Record Keeping**
35. Has an individual been assigned responsibility for record keeping?
36. Are records maintained in accordance with the latest OSHA regulations?

Training

37. Do all employees receive safety and health training as part of their in-processing orientation?
38. Do all employees receive job-site-specific training before being allowed to work?
39. Do all employees receive task-specific training before being allowed to perform the tasks in question?
40. Do employees receive periodic updated training?
41. Do employees receive additional training when they change jobs or job sites? When new equipment or new methods are put to use?
42. Do managers and supervisors receive the safety and health training they need?
43. Are comprehensive, up-to-date training records maintained?

Medical Assistance and First Aid

44. Are adequate first-aid supplies available at all job sites?
45. Are emergency telephone numbers for medical assistance posted conspicuously?
46. Are up-to-date employee health and medical records maintained and made available to employees who want to receive them?

Emergency Response

47. Are all employees trained in fire-response procedures?
48. Are all employees trained in job-site evacuation procedures?

Communication

49. Is the program sufficiently communicated to all employees?
50. Are employees allowed to give feedback about the program?

FIGURE 12-7 (Continued)

Summary

There is disagreement among construction professionals concerning the need for safety and health plans and programs. However, the evidence shows that well-written safety and health plans can prevent accidents, illnesses, injuries, and the expenses associated with them. There are ethical, regulatory, economic, and practical reasons for having comprehensive written safety and health plans. Such a plan should have at least the following components: (1) safety and health policy; (2) safety and health goals; (3) roles and responsibilities; (4) discipline policy and procedures; (5) job-site inspections;

(6) accident investigations; (7) record keeping; (8) training; (9) medical response and first aid; and (10) emergency response. Communicating the safety and health plan to all employees is important and should include a variety of strategies. Effective strategies include the following: (1) face-to-face meetings; (2) bulletin board notices; (3) "chalk talks" by supervisors; (4) new employee orientations; (5) audiotapes; (6) videotapes; (7) newsletters, memoranda, and bulletins; (8) signs and posters; and (9) setting a positive example. It is important to evaluate the safety and health plan for content and processes. Checklists that follow the patterns of the plan can be developed to help simplify the evaluation process.