

Industrial Accidents

Why Do They Occur? Are They Inevitable?

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An accident is an unwanted event that is never scheduled or planned. Many factors contribute to accidents' occurrence; significant losses and even bodily injury can result following each incident. These basic facts are well understood, yet accidents continue to occur, property damage accumulates, work schedules remain interrupted, and injuries reduce personal income.

Are accidents inevitable? Do they occur as a natural consequence of a daily routine? Can they be avoided?

All accidents are caused. They are the result of human error, and they involve unsafe behavior or an unsafe condition, or a combination of both. Process improvement opportunities are always identified following an accident, and prompt corrective measures are scheduled. Unfortunately, the inherent ability of the environment or behavior that initially caused the accident is seldom addressed in its entirety. Thus, we wait for the next accident in order to identify the next required corrective action. Hindsight has future value, but only after the accident occurs. The opposite of hindsight is foresight. With foresight, you identify accident potentials; with hindsight, you investigate accidents. Let us consider the value of each.

The Process of Hindsight: Accident Investigation

Discovering “what happened” and “why” are the objectives of an accident investigation. To ensure standardization in fact gathering, checklists are often used. Supervisor and employee work together to identify causes and remedial actions. The process requires a “questioning attitude.”

Everyone involved should know that an accident investigation is not a “fault finding” or “finger pointing” expedition. Meaningful involvement is essential. Employees can provide valuable suggestions when they are regarded as “full partners” in the investigation process.

There are generally five major elements in a good investigation: specifics, procedures, conditions, unsafe elements (acts and/or behavior), and corrective action. How, when, where, and why did the accident occur? What procedures were being followed and why? What conditions existed when the accident occurred? What was the primary cause of the accident? What should be done to prevent similar occurrences? Remember: All accidents are



caused and could have been prevented by the identification and removal of one or more of the contributing factors. All possible factors must be discussed and identified. Participants in the investigation should agree with the conclusions.

“Employee tripped and fell while en route to the parking lot” does not provide sufficient details. “Employee should be more careful” is not adequate corrective action. “Repaired the defective equipment” does not identify the root cause of the failure. “Additional training will be provided” does not explain why the unsafe behavior occurred. Anyone reading an accident investigation report should be able to visualize exactly how the accident happened and should know the corrective action needed to prevent recurrence is adequate.

Hindsight is effective only when each accident, regardless of disposition, is treated as a matter of real importance. Reporting must be encouraged, and investigation must be prompt. Supervisor and employee must work as a team to identify accident causes and corrective actions needed to prevent similar incidents.

The Process of Foresight: Identification of Potentials

Each accident results from a breakdown in the safety system. Employee behavior/procedures and/or the condition

of equipment/environment are always involved. The ability to monitor and evaluate these elements on a continuous basis can identify work practices and conditions that have the ability to produce accidents.

Employee involvement is critical to the foresight approach. Most injuries involve shop employees who “do the work.” Their work practices and attitudes determine the level of safety that exists in the shop.

It is not possible to provide continuous monitoring during a work shift. A representative sample of work routines is usually enough, provided the data collected is quantified and reviewed with supervisors. Behavioral trends must be determined; equipment abuse/misuse must be identified; random adjustments in work procedures must be discovered; and work flow must be evaluated. Whenever the potential to cause an accident/injury is apparent, corrective action must be implemented.

“Foresight Programs” must be a joint effort (supervisor and employee) with objectives that are predetermined. Audit teams must be developed, and observations of work practices in designated areas must be scheduled. Typically, an audit might involve a supervisor and employee visiting a work area other than their own to observe work habits/routines. The actual process would be:

1. Select the workstation or operation to be observed before beginning the audit. Concentrate on a single worker or operation. (The “big picture look” often produces very little meaningful information.)
2. Observe the work habits/procedures/equipment being used to perform work. Determine how accidents/injuries can occur.
3. Identify any behavioral changes that occur during the audit.
4. Evaluate housekeeping conditions and equipment in the work area. Is anything “out of place”? Is unnecessary material or equipment located in the work area?
5. Discuss work routine with the worker. Do not “coach” the worker. Ask questions such as, “Why are you using (a particular method)?” “Do you think there is a better method?” “Have you ever had an accident?” The worker should identify unsafe practices and/or potential accident causes without assistance. Unsafe behavior should not be criticized.
6. Summarize your observations and provide corrective action not indicated by the worker. The worker should take the initiative in correcting unsafe work practices and should accept responsibility for working safely.



Information collected should be combined with data from other audits to establish trends and to identify accident potentials that are inherent within the work process. Accident source reports should be developed and reviewed with supervision. Appropriate corrective action should be implemented. All workers should know that these “get acquainted audits” are being conducted to evaluate safety practices and to provide improvements that will “make work easier and safer” for all employees.

Foresight is an effective means of preventing accidents when workers embrace the concept, regular audits are conducted, and corrective action is provided. Participation must be encouraged and supported by top management. Considerable benefits, including “before-the-fact” accident prevention, can be derived from a well-run program.

Hindsight vs. Foresight

Hindsight determines why accidents occurred; it does not prevent them. Foresight identifies potential accident conditions and provides corrective

action before the incident occurs. It is the difference between being proactive and reactive in your safety philosophy. Both methods require employee involvement and an investment of time. The foresight approach does not involve equipment and/or property damage, injury costs, unscheduled production downtime, or product quality issues.

While there is no guarantee that accidents will not continue to occur when the foresight approach is adopted, there is a “comfortable feeling” about the value of accident prevention efforts.

References

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