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Accident Investigation

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How to Conduct an Accident Investigation

Workplace accidents are a type of system malfunction similar to what causes the check engine light to display on a vehicle's diagnostic screen. An investigation is needed to identify contributing factors including unsafe acts and conditions. When accidents are not investigated, deficiencies in the safety management system remain undetected and will continue to generate the same, if not worse, results.

Who should conduct the investigation?

Ideally, an investigation is conducted by one or more people who are:

- experienced in accident causation models,
- experienced in investigative techniques,
- knowledgeable of legal and organizational requirements,
- knowledgeable of occupational health and safety fundamentals,
- able to use interview and other person-to-person techniques effectively; and
- able to analyze data gathered to determine findings and corrective action

PRISMtv, our on-demand webcast platform, includes a three-part webcast titled "Accident Investigation for Supervisors." Use it to train your team on the fundamentals of investigating accidents.

Where to focus?

Effective investigations identify unsafe acts and unsafe conditions that contributed to a loss. An unsafe act is a specific action, or lack of action, by an individual that is under their control. Unsafe acts can be categorized as skill-based errors, perception errors, or judgment and decision making errors.

Examples of unsafe acts include, but are not limited to:

- not following established procedures
- disregarding a hazard
- willful misconduct,
- abusing or misusing equipment
- not donning personal protective equipment when required
- error due to misperception

An unsafe condition is any unsatisfactory physical condition existing in a workplace environment with the potential to cause a loss.

Examples of unsafe conditions include, but are not limited to:

- Poor housekeeping
- Defective equipment or PPE
- Inadequate guards
- Fire hazards
- Inadequate lighting
- Hazardous gasses, dust, or fumes
- Slip/trip/fall hazards

Effective investigations identify unsafe acts and conditions contributing to an accident by examining:

- the task performed at the time of the loss,
- the material and equipment in-use,
- the surrounding work environment,
- individual and physiological factors of the personnel involved; and
- management practices and organization influences

Findings from investigating these factors are used to make changes to your agency's IIPP.

Task

Here, the actual work procedure used at the time of the incident is analyzed. Members of the investigation team will seek answers to questions such as:

- Was an approved work procedure developed and utilized?
- Had conditions changed to make the standard procedure unsafe?
- Were the appropriate tools and materials available, in good working order, and properly used?
- Were safety devices working properly?
- Did the use of personal protective equipment play a role in the incident?
- Had there been other accidents involving the same task?

An important follow-up question is "If not, why not?"

Equipment and Materials

To seek out possible causes resulting from equipment or materials involved in the accident, investigators might ask:

- Was there an equipment failure, and if yes, what was the cause?
- Were equipment and tools routinely inspected?
- Were equipment and tools on a preventive maintenance schedule?
- Was the machinery poorly designed?
- Were safety guards removed?
- Was a less hazardous alternative product possible or available?
- Should personal protective equipment (PPE) have been used?
- Were users of PPE adequately trained?

Again, each time the answer reveals an unsafe condition, the investigator must ask why this situation was allowed to exist and how the safety management system can be changed to prevent a recurrence.

Work Environment

The physical work environment, especially sudden changes to that environment, are factors that need to be identified and reviewed. For example, investigators may want to know:

- What were the weather conditions?
- Was housekeeping a factor?
- Was it too hot or too cold?
- Was noise a factor?
- Was there adequate lighting?
- Were toxic or hazardous gases, dust, or fumes present?

If any of these factors could be controlled, create a plan of action to correct these deficiencies.

Individual and Physiological Factors

Although some of these factors are outside the control of the IIPP, all contributing factors must be identified, including:

- Were workers newly hired or novices in the work being completed? If yes, did they complete a new hire safety orientation?
- Had they been adequately trained?
- Were they physically capable of performing the work?
- Were they ill or under the influence of medications or drugs?
- Was fatigue or shiftwork an issue?
- Were they under stress (work or personal)?
- Was there pressure to complete tasks under a deadline, or to by-pass safety procedures?

Management Practices and Organizational Influences

Management holds the legal and ultimate responsibility for the safety of the workplace. Also known as "root causes," the role of supervisors and the safety management system is the primary consideration during an investigation. This category focuses on overall influences that may require questioning personnel not involved in the loss. It includes questions such as:

- Were safe work procedures developed, documented, communicated, and understood by all employees?
- If training was conducted, was it adequate?
- Were safe work procedures routinely enforced?
- Was there adequate supervision?
- Had hazards and risks been previously identified and assessed?
- Were unsafe conditions corrected?
- Was preventative maintenance of equipment performed?
- Were regular safety inspections conducted, and did they check risk factors for this specific accident?
- Did supervisors provide feedback and coaching to correct unsafe acts and conditions?
- Was feedback to improve the IIPP solicited, and do employees feel safe from retaliation?

Corrective Action

After identifying unsafe acts and conditions, scrutinize how your IIPP could have prevented the loss and create an action plan to make the necessary changes. As a reminder, the IIPP consists of the following components:

1. Responsibility – who is responsible for administering the IIPP and who provides ancillary support
2. Compliance – how employees and supervisors will be held accountable
3. Communication – how safety and health information will be communicated to staff
4. Hazard assessment – when will periodic inspections occur
5. Accident investigation – when and how will investigations be conducted
6. Hazard correction – when and how will hazards be corrected
7. Training and instruction – when and how will training be provided
8. Recordkeeping – what will be documented and how long will records be retained

Post-Investigation

Following an accident investigation, consider the following:

- Do other sites or areas present similar unsafe conditions?
- How will you share lessons learned with supervisors and employees?
- Who will update the IIPP to reflect changes in procedures or policies as a result of the investigation?
- Is retraining required for staff or supervisors?

Quick Tips:

- Complete the investigation as soon as possible. Memories fade quickly, and it is essential to observe the scene of the accident before it is disturbed.
- When taking photos of the accident, pan in/out of the scene, and include a ruler for scale.
- Avoid the knee-jerk reflex of conducting safety training unless a lack of knowledge played a role in the loss.
- Unless egregious violations were employed, refrain from administering employee disciplinary action. Employers who only discipline employees following an injury create the potential for a discrimination claim.
- Go digital! Using software with a mobile application is more efficient than a paper-based method. Some will also allow supervisors to submit the 5020 form to your claims administrator directly from the software.

Conclusion

Over the past decade the focus of blaming employees for "not using common sense" has justly shifted to faulting the safety management system that allows unsafe acts and conditions to transpire. Conducting an accident investigation is, therefore, necessary to identify and correct deficiencies in the IIPP. Contact PRISM Risk Control if you have questions or need assistance.