Incident Investigations: A Guide for Employers

Provided by: SilverStone Group
11516 Miracle Hills Drive
Omaha, NE 68154
Tel: 402-964-5400
Contents

Purpose of the Guide: Why Investigate? ................................................................. 3

Principles of Incident Investigations ...................................................................... 3

The Language of Incident Investigations .............................................................. 3

Investigating All Incidents, Including Close Calls ............................................... 4

Investigate Programs, Not Behaviors ................................................................. 4

Focus on the Root Causes, Not Blame or Fault .................................................. 5

Establish an Incident Investigation Program .................................................... 6

Conduct Incident Investigations: A 4-step Systems Approach ....................... 7

Step 1: Preserve and Document the Scene ......................................................... 8

Step 2: Collect Information ............................................................................... 8

Step 3: Determine Root Causes ......................................................................... 9

Step 4: Implement Corrective Actions ............................................................... 10

Resources ........................................................................................................... 11

Appendix A: Incident Investigation Form .......................................................... 12

Appendix B: Incident Investigator’s Kit .............................................................. 15

Appendix C: Tips for Video and Photo Documentation ..................................... 16

Appendix D: Sketch the Scene Techniques ......................................................... 17

Appendix E: Collect Information Checklist ...................................................... 18

Appendix F: Sample Questions for Identifying Incident Root Causes ............. 20

DISCLAIMER: This guide was developed by OSHA’s Directorate of Training and Education and is intended to assist employers, workers, and others as they strive to improve workplace health and safety. This guide is advisory in nature and informational in content. It is not a new standard or regulation and does not create any new legal obligations or alter existing obligations created by OSHA standards or regulations or the Occupational Safety and Health Act of 1970 (OSH Act). Pursuant to the OSH Act, employers must comply with safety and health standards and regulations issued and enforced either by OSHA or by an OSHA-approved state plan. In addition, the OSH Act’s General Duty Clause, Section 5(a)(1), requires employers to provide their workers with a workplace free from recognized hazards likely to cause death or serious physical harm. Implementation of an incident investigation program in accordance with this guide can aid employers in their efforts to provide a safe workplace.
Your company experienced an incident that resulted (or almost resulted) in an employee injury or illness. What should you do now?

As a responsible employer, you need to react quickly to the incident with a prescribed investigation procedure for finding the root causes and implementing corrective actions. Quick and planned actions demonstrate your company’s commitment to the safety and health of your employees, and your willingness to improve your safety and health management program to prevent future incidents.

**Purpose of the Guide: Why Investigate?**

The purpose of this Incident Investigations Guide is to provide employers with a systems approach to help identify and control the underlying causes of all incidents in order to prevent their recurrence.

All incidents—regardless of size or impact—need to be investigated. The process helps employers look beyond what happened to discover why it happened. This allows employers to identify and correct shortcomings in their safety and health management programs.

**Principles of Incident Investigations**

**The Language of Incident Investigations**

Employers will notice this guide uses the term “incident,” not “accident,” to describe a workplace event. This is because the word “accident” has come to be considered as a random event that just happened and could not have been prevented. However, the vast majority of harmful workplace events do not “just happen.” On the contrary, most harmful workplace incidents are wholly preventable.

In short, the basic principle is that incidents do not have to occur; they can be prevented by addressing the shortcoming in the programs that manage health and safety in the workplace.

The follow are the key terms that are used throughout this guide:

- **Incident:** A work-related event in which an injury, illness or fatality occurred, or could have occurred. This term is used regardless of the severity of the incident.

- **Root causes:** The underlying reasons why unsafe conditions exist, or if a procedure or safety rule was not followed in the workplace. Root causes generally reflect management, design, planning, organizational or operational failings. For example, a root cause could be a damaged guardrail that had not been repaired, or a failure to use the guardrail was routinely overlooked by supervisors to ensure the speed of production.

- **Close call:** An incident that could have caused serious injury or illness but did not. This is also called a “near miss.”

Investigating a worksite incident provides employers and employees with the opportunity to identify hazards in their operations and shortcomings in their safety and health programs. Most importantly, it enables employers and employees to identify and implement the corrective actions necessary to prevent future incidents.
Incident investigations that focus on identifying and correcting root causes, not on finding fault or blame, also improve workplace morale and increase productivity by demonstrating an employer’s commitment to a safe and healthy workplace.

**Investigating All Incidents, Including Close Calls**
Employers should investigate all workplace incidents—both those that cause harm and the close calls that could have caused harm under slightly different circumstances. Investigations are incident-prevention tools and should be an integral part of an occupational safety and health management program in a workplace. Such a program is a structured way to identify and control the hazards in a workplace, and should emphasize continuous improvement in health and safety performance. When done correctly, an effective incident investigation uncovers the root causes of the incident or close call that were the underlying factors. Most importantly, investigations can prevent future incidents if appropriate actions are taken to correct the root causes discovered by the investigation.

Investigations also save employers money, because incidents are far more costly than most people realize. The National Safety Council estimates that, on average, preventing a workplace injury can save $39,000, and preventing a fatality can save more than $1.4 million—not to mention, it can prevent the suffering of the employees and their families. The more obvious financial costs are those related to employees’ compensation claims, but these are only the direct costs of incidents. The indirect costs are less obvious, but are often more expensive, and include lost production, schedule delays, increased administrative time (e.g., for emergency response, investigations and claims processing), lower morale, training of new or temporary personnel, increased absenteeism, and damaged customer relations and corporate reputation.

**Investigate Programs, Not Behaviors**
Incident investigations that follow a systems approach are based on the principle that the root causes of an incident can be tracked back to failures of the programs that manage safety and health in the workplace. This approach is fundamentally different from a behavioral safety approach, which assumes that the majority of workplace incidents are simply the result of human error or behavioral failures. Under a systems approach, one would not conclude that carelessness or failure to follow a procedure alone was the cause of an incident. To do so fails to discover the underlying or root causes of the incident, and, therefore, fails to identify the systemic changes and measures needed to prevent future incidents. When a shortcoming is identified, it is important to ask why it existed and why it was not previously addressed.

Here are a few example questions:

- If a procedure or safety rule was not followed, **why** was the procedure or rule not followed?
- Did production pressures play a role, and if so, **why** were production pressures permitted to jeopardize safety?
- Was the procedure out of date or safety training inadequate? If so, **why** was the problem not previously identified, or if it was identified, **why** was it not addressed?
A systems approach always looks beyond the immediate causes of the incident. If an employee suffers an amputation on a table saw, the investigator would ask questions such as the following:

- Was the machine adequately guarded? If not, why?
- Was the guard damaged or non-functional? If so, why hadn’t it been fixed?
- Did the guard design get in the way of the work? Was the employee trained properly on the procedures to do the job safely?

In a systems approach, investigations do not focus primarily on the behaviors of the employees closest to the incidents, but on the factors that prompted such behaviors. The goal is to change the conditions under which people work by eliminating or reducing the factors that create unsafe conditions. This is typically done by implementing adequate barriers and safeguards against the factors that cause unsafe conditions or actions.

Root causes often involve multiple deficiencies in the safety and health management programs. These deficiencies may exist in areas such as workplace design, cultural and organizational factors, equipment maintenance and other technical matters, operating systems and procedures, staffing, supervision and training. Eliminating the immediate causes is like cutting weeds, while eliminating the root causes is equivalent to pulling out the roots so that the weed cannot grow back.

**Focus on the Root Causes, Not Blame or Fault**

A successful incident investigation must always focus on discovering the root causes. If an investigation is focused on finding fault, it will always stop short of discovering the root causes. It is essential to discover and correct all the factors that contributed to an incident, which nearly always involves equipment, procedural, training, and other safety and health deficiencies.

If an investigation becomes a search for someone to blame, both management and labor will be reluctant to participate in an open and forthright manner. Employees will be afraid of retaliation and
management will be concerned about recognizing system flaws because of the potential legal and financial liabilities.

**Establish an Incident Investigation Program**

When a serious incident occurs in the workplace, everyone will be busy dealing with the emergency at hand. Therefore, it is important to be prepared to investigate incidents before they occur. An incident investigation program should include a clearly stated, easy-to-follow written plan with guidelines for the following:

- How and when management is to be notified of the incident
- Notifying OSHA, which must comply with reporting requirements, including the following:
  - Reporting all work-related fatalities within eight hours.
  - Reporting all work-related inpatient hospitalizations, amputations and losses of an eye within 24 hours.
- Who is authorized to notify outside agencies (e.g., fire and police departments)
- Who will conduct investigations and what training they should have received
- Timetables for completing the investigation and implementing recommendations
- Who will receive investigation recommendations
- Who will be responsible for implementing corrective actions

Although a supervisor sometimes conducts incident investigations, to be most effective, investigations should be conducted by a team in which managers and employees work together, since each brings different knowledge, understanding and perspectives to an investigation. Working together will also encourage all parties to “own” the conclusions and recommendations, and to jointly ensure that corrective actions are implemented in a timely manner.

When an incident involves a temporary employee provided by a staffing agency, both the agency and the host employer should conduct an incident investigation. However, when an incident involves a multi-employer worksite, the incident investigation should be shared with each employer at the worksite. It is a fundamental principle that temporary employees are entitled to the same protections under the Occupational Safety and Health (OSH) Act as all other covered employees. Therefore, if a temporary employee is injured and the host employer knows about it, the staffing agency should be informed promptly so the agency is aware of the hazards facing its employees. Equally, if a staffing agency learns of an injury, it should inform the host employer promptly so that future injuries might be prevented and the case is recorded appropriately. Both the host employer and staffing agency should track, and, if possible, investigate the cause of workplace injuries.
Conduct Incident Investigations: A Four-step Systems Approach

One of the biggest challenges facing investigators is to determine what is relevant to what happened, how it happened and especially why it happened. This involves conducting a systems approach incident investigation that focuses on the root causes of the incident to prevent them from happening again.

This section of the guide helps employers implement a four-step approach to conduct a successful incident investigation. Included is a set of appendices that can serve as tools for employers to use when conducting investigations:

- **Appendix A: Incident Investigation Form**: This is used to walk the employer through the four incident investigation steps.

- **Appendix B: Incident Investigator’s Kit**: This lists the equipment recommended to conduct an investigation.

- **Appendix C: Tips for Video and Photo Documentation**

- **Appendix D: Sketch the Scene Techniques**

- **Appendix E: Collect Information Checklist**

- **Appendix F: Sample Questions for Identifying Incident Root Causes**: This includes sample questions to ask in a systems approach process.

The four-step systems approach in this guide is supported by the Incident Investigation Form (Appendix A) and other tools. This approach will guide employers through the incident investigation and help to ensure the implementation of corrective measures based on the findings.

Here are the steps:

1. Preserve and document the scene: See Appendices A, B, C and D.

2. Collect information: See Appendix E.

3. Determine the root causes: See Appendix F.

4. Implement corrective actions.

Remember that before an investigation, all emergency response needs must be met and the incident site must be safe and secure for entry and investigation.

With an effective safety and health management program in place, all the involved parties are aware of the roles they play during the investigation. This helps transition from emergency response and site safety to preserving the scene and documenting the incident.
Step 1: Preserve and Document the Scene

**Preserve the scene:** Preserve the scene to prevent material evidence from being removed or altered. Investigators can use cones, tape or guards.

**Document the scene:** Document the facts surrounding the incident, such as the date of the investigation and who is investigating. Some facts are essential, such as the injured employee’s name, a description of the injury, their employment status (e.g., temporary or permanent) and the date and location of the incident. Investigators can also document the scene by recording video, taking photographs and sketching.

Step 2: Collect Information

Incident information is collected through interviews, document review and other means. Appendix E provides a checklist to use in order to help ensure all information pertinent to the incident is collected.

In addition to interviews, investigators may find other sources of useful information, including the following:

- Equipment manuals
- Industry guidance documents
- Company policies and records
- Maintenance schedules, records and logs
- Training records, including communication to employees
- Audits and follow-up reports
- Enforcement policies and records
- Previous corrective action recommendations

Interviews can often yield details and useful information about an incident. Since memories fade, interviews must be conducted as promptly as possible, preferably as soon as things have settled down a bit and the site is secure and safe. The sooner a witness is interviewed, the more accurate and candid his or her statement will be.

An incident investigation always involves interviewing and possibly re-interviewing some of the same or new witnesses as more information becomes available, up to and including the highest levels of management. Carefully question witnesses to solicit as much information as possible related to the incident.

Since some questions will need to be designed around the interviewee, each interview will be a unique experience. When interviewing injured employees and witnesses, it is crucial to reduce their possible
fear and anxiety and to develop a good rapport. When conducting an interview, investigators should follow these practices:

- Conduct the interview in the language of the interviewee. Use a translator if needed.
- Clearly state that the purpose of the investigation and interview is collecting facts, not finding fault.
- Emphasize that the goal is to learn how to prevent future incidents by discovering the root causes of what occurred.
- Establish a climate of cooperation and avoid anything that may be perceived as intimidating or searching for someone to blame for the incident.
- Let employees know that they can have an employee representative (e.g., labor representative) present if available or appropriate.
- Ask the individuals to recount their versions of what happened.
- Do not interrupt the interviewee.
- Take notes on or record responses. However, the interviewee must give permission prior to being recorded.
- Ask clarifying questions to fill in missing information.
- Repeat back to the interviewees the factual information obtained and correct any inconsistencies.
- Ask the individuals what they think could have prevented the incident, focusing on the conditions and events preceding the injury.

**Step 3: Determine Root Causes**

Finding the root causes of an incident goes beyond the obvious proximate or immediate factors, it is a deeper evaluation of the incident. This requires persistent “digging,” typically by asking questions repeatedly. Conclusions such as “an employee was careless” or “an employee did not follow safety procedures” don’t get at the root causes of an incident. To avoid these incomplete and misleading conclusions in the investigative process, investigators need to continue to ask “why” questions.

It cannot be stressed enough that a successful incident investigation must always focus on discovering the root causes. Investigations are not effective if they are focused on finding fault or blame. The main goal must always be to understand how and why the existing barriers against hazards failed or proved to be insufficient.

The questions listed below are examples of inquiries that an investigator may pursue to identify contributing factors that, in turn, can lead to root causes:
Incident Investigations

- Was a procedure or safety rule not followed? If so, why?
- Was machinery or equipment damaged or did it fail to operate properly? If so, why?
- Was a hazardous condition a contributing factor? If so, why was it present?
- Was the location of equipment, materials and/or an employee a contributing factor? If so, why?
- Was the lack of personal protective equipment (PPE) or emergency equipment a contributing factor? If so, why?
- Was a management program defect a contributing factor? If so, why?

Additional examples of questions to ask to get to the root causes of an incident are listed in Appendix F.

Step 4: Implement Corrective Actions
The investigation is not complete until corrective actions are implemented that address the root causes of the incident. Implementation should entail program level improvements and should be supported by senior management.

Note that corrective actions may be of limited preventive value if they do not address the root causes of the incident. Throughout the workplace, the findings and how they are presented will shape perceptions and subsequent corrective actions. Superficial conclusions such as “this employee should have used common sense,” and weak corrective actions such as “employees must remember to wear PPE,” are unlikely to improve the safety culture or to prevent future incidents.

In planning and implementing corrective actions, employers may find that some root causes will take time and perseverance to fix. However, persisting in implementing substantive corrective actions will not only reduce the risk of future incidents, but also improve safety, employee morale and the company’s bottom line.

Specific corrective actions address root causes directly. However, some corrective actions can be general improvements to the workplace safety environment. Here are some sample global corrective actions to consider:

- Developing or strengthening a comprehensive, written safety and health management program
- Revising safety policies to clearly establish responsibility and accountability
- Revising, purchasing or contracting policies to include safety considerations
- Changing safety inspection processes to include line workers along with representatives from management

Source: OSHA’s Incident [Accident] Investigations: A Guide for Employers
Resources

Here is a list of safe resources to consider:

- OSHA: [www.osha.gov](http://www.osha.gov)
  - OSHA’s Incident Investigation: [www.osha.gov/dcsp/products/topics/incidentinvestigation/index.html](http://www.osha.gov/dcsp/products/topics/incidentinvestigation/index.html)
  - OSHA’s Injury and Illness Prevention Programs: [www.osha.gov/dsp/topics/safetyhealth/index.html](http://www.osha.gov/dsp/topics/safetyhealth/index.html)
- SilverStone Group: Contact us at 402-964-5400 today to view our comprehensive safety resources. Here is just a sample of what we can offer you:
  - Personal Protective Equipment Program
  - Workplace Safety Meeting Policy
  - Lockout/Tagout Program
  - Employee Safety Incentive Policy
  - Safety Program “Quick Check”
  - Risk Summary & Coverage Checklists
Appendix A: Incident Investigation Form

Form Section
Section A: Information

Company name: _____________________________ Date: ____________

Investigator (or) team name(s) and titles:

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>_____________________</td>
<td>____________________________</td>
</tr>
<tr>
<td>_____________________</td>
<td>____________________________</td>
</tr>
<tr>
<td>_____________________</td>
<td>____________________________</td>
</tr>
<tr>
<td>_____________________</td>
<td>____________________________</td>
</tr>
</tbody>
</table>

Section B: Incident Description/Injury Information

1. Name and age of injured employee: _____________________________
   Employee’s first language: _____________________________
   Employee’s job title: _____________________________
   Job at time of injury: _____________________________
   Type of employment: ___ Full-time ___ Part-time ___ Temporary ___ Seasonal
   Other: _____
   Length of time with company: _____________________________
   Length in current position at the time of the incident: _____________________________
   Description and severity of injury: _____________________________

2. Date and time of incident: _____________________________

3. Location of incident: _____________________________

   Note: Items 4, 5, and 6 are used for both Step 1 and Step 2.

4. Detailed description of incident: Include relevant events leading up to, during and after the incident. (It is preferred that the information is provided by the injured employee.)

__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
Use additional pages if needed.

5. Description of incident from eye witnesses, including relevant events leading up to, during and after the incident. Include names of persons interviewed, job titles and the date and time of interviews.

__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________

Use additional pages if needed.

6. Description of incident from additional employees with knowledge, including relevant events leading up to, during and after the incident. Include names of persons interviewed, job titles and the date and time of interviews.

__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________

Use additional pages if needed.
Section C: Identify the Root Causes: What Caused or Allowed the Incident to Happen?

The root causes are the underlying reasons the incident occurred, and are the factors that need to be addressed to prevent future incidents. If safety procedures were not being followed, why were they not being followed? If a machine was faulty or a safety device failed, why did it fail? It is common to find factors that contributed to the incident in several of these areas: equipment or machinery, tools, procedures, training or lack of training, and work environment. If these factors are identified, you must determine why these factors were not addressed before the incident.

__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________

Use additional pages if needed.

Section D: Recommended Corrective Actions to Prevent Future Incidents

__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________

Use additional pages if needed.

Section E: Corrective Actions Taken or Root Causes Addressed

__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________
__________________________________________________________________________________

Use additional pages if needed.
Appendix B: Incident Investigator’s Kit

Sample list of items to use to conduct the investigation:

- Camera
- Charged batteries (for phone, cameras, equipment, etc.)
- Video and audio recorder
- Measuring devices in various sizes
- Leveling rod
- Clipboard and writing pad
- Pens, pencils and markers
- Graph paper
- Straight-edge ruler
- Incident investigation forms (can be used as a scale reference in photos)
- Flashlight
- Strings, stakes and warning tape
- Photo marking cones
- Personal protective equipment (e.g., gloves, hat, eyewear, ear plugs and face mask)
- Magnifying glass
- High visibility plastic tapes to mark off area
- First-aid kit
- Latex gloves
- Multiple types of sampling (holding) containers with seals
- Identification tags
- Scotch, masking and duct tape
- Compass
- Carpenter’s ruler
- Hammer
- Paint stick
- Chalk
- Protractor
- Clinometer
Appendix C: Tips for Video and Photo Documentation

Note: Interviewees must be aware that they are being video recorded or photographed. It is recommended that investigators obtain permission from the interviewee prior to the interview.

Here are some tips for video documentation:

- Record the scene as soon as possible. Doing this early on will pick up details that may later add valuable information to the investigation.
- Slowly scan the area 180 degrees to the left and right to establish location.
- Narrate what is being recorded, and describe objects, size, direction, location and any other details.
- If vehicles were involved, record direction of travel.

Here are some tips for photograph documentation:

- Always make notes about the photos taken.
- Start by taking distance shots, then move in to take closer photos of the scene.
- Take photos at different angles (e.g., from above, 360 degrees around the scene and from below) to show the relationship of objects and minute and/or transient details such as ends of broken rope, defective tools, drugs, wet areas or containers.
- Take panoramic photos to help present the entire scene from top to bottom and from side to side.
- Take notes on each photo; these should be included in the incident investigation file along with the photos.
- Identify and document the photo type (e.g., subject, weather conditions, measurements, date, time and location).
- Place an item of known dimensions in the photo to add a frame of reference and scale (e.g., a penny or pack of cards).
- Identify the person taking the photo.
- Indicate the locations where photos were taken on sketches (see Appendix D).
Appendix D: Sketch the Scene Techniques

Here are some tips for sketching the scene of an incident:

1. Make sketches large—at least 8-by-10 inches—and clear. Also, be sure to print legibly.

2. Include “incident details” (e.g., time, date, injured person, location and conditions).

3. Include measurements (e.g., distances, heights and lengths) and use permanent points (e.g., a telephone pole or building) to clearly present the measurements.

4. Indicate compass directions.

5. Make notes on the sketch to provide additional information, such as a photo’s location and/or where people were at the time of the incident.

Note: The sketch can be used during interviews to help interviewees identify their location before, during or after the incident.
Appendix E: Collect Information Checklist

Investigators should be sure to answer the following questions:

- **Who?**
  - Who was injured?
  - Who saw the incident?
  - Who was working with the employee?
  - Who had instructed or assigned the employee?
  - Who else was involved?
  - Who can help prevent recurrence?
  - Where did the incident occur?

- **Where?**
  - Where was the employee at the time?
  - Where was the supervisor at the time?
  - Where were fellow employees at the time?
  - Where were other people who were involved at the time?
  - Where were witnesses when the incident occurred?

- **What?**
  - What was the incident?
  - What was the injury?
  - What was the employee doing?
  - What had the employee been told to do?
  - What tools was the employee using?
  - What machine was involved?
  - What operation was the employee performing?
  - What instructions had the employee been given?
  - What specific precautions were necessary?
  - What specific precautions was the employee given?
  - What protective equipment should have been used?
  - What protective equipment was the employee using?
  - What had other people done that contributed to the incident?
  - What problems or questions did the employee encounter?
Incident Investigations

- What did the employee or witnesses do when the incident occurred?
- What extenuating circumstances were involved?
- What did the employee or witnesses see?
- What will be done to prevent recurrence?
- What safety rules were violated?
- What new rules are needed?

**Why?**

- Why was the employee injured?
- Why and what did the employee do?
- Why and what did the other person do?
- Why wasn’t protective equipment used?
- Why weren’t specific instructions given to the employee?
- Why was the employee in the position?
- Why was the employee using the tools or machine?
- Why didn’t the employee check with the supervisor when the employee noted things weren’t as they should be?
- Why did the employee continue working under the circumstances?
- Why wasn’t the supervisor there at the time?

**When?**

- When did the incident occur?
- When did the employee start on that job?
- When was the employee assigned to the job?
- When were the hazards pointed out to the employee?
- When was the supervisor’s last check on job progress?
- When did the employee first sense something was wrong?

**How?**

- How did the employee get injured?
- How could the employee have avoided it?
- How could fellow employees have avoided it?
- How could the supervisor have prevented it, or could it have been prevented at all?
Appendix F: Sample Questions for Identifying Incident Root Causes

Here are some sample questions for identifying the root causes of an incident:

1. Did a written or well-established procedure exist for employees to follow?
2. Did job procedures or standards properly identify the potential hazards of job performance?
3. Were there any hazardous environmental conditions that may have contributed to the incident?
4. Were the hazardous environmental conditions in the work area recognized by employees or supervisors?
5. Were any actions taken by employees, supervisors, or both to eliminate or control environmental hazards?
6. Were employees trained to deal with any hazardous environmental conditions that could arise?
7. Was sufficient space provided to accomplish the job task?
8. Was there adequate lighting to properly perform all the assigned tasks associated with the job?
9. Were employees familiar with job procedures?
10. Was there any deviation from the established job procedures?
11. Were the proper equipment and tools available and being used for the job?
12. Did any mental or physical conditions prevent the employee(s) from properly performing the job?
13. Were there any tasks in the job considered more demanding or difficult than usual (strenuous activities, excessive concentration required, etc.)?
14. Was there anything different or unusual from normal operations (e.g., different parts, new or different chemicals used, or recent adjustments, maintenance or cleaning on equipment)?
15. Was the proper personal protective equipment specified for the job or task?
16. Were employees trained in the proper use of any personal protective equipment?
17. Did the employees use the prescribed personal protective equipment?
18. Was personal protective equipment damaged or not properly functioning?
19. Were employees trained and familiar with the proper emergency procedures, including the use of any special emergency equipment and was it available?
20. Was there any indication of misuse or abuse of equipment and/or materials at the incident site?
21. Is there any history of equipment failure, were all safety alerts and safeguards operational, and was the equipment functioning properly?

22. If applicable, are all employee certification and training records current and up to date?

23. Was there any shortage of personnel on the day of the incident?

24. Did supervisors detect, anticipate or report an unsafe or hazardous condition?

25. Did supervisors recognize deviations from the normal job procedure?

26. Did supervisors and employees participate in job review sessions, especially for those jobs performed on an infrequent basis?

27. Were supervisors made aware of their responsibilities for the safety of their work areas and employees?

28. Were supervisors properly trained in the principles of incident prevention?

29. Was there any history of personnel problems or any conflicts with or between supervisors and employees or between employees themselves?

30. Did supervisors conduct regular safety meetings with their employees?

31. Were the topics discussed and actions taken during the safety meetings recorded in the minutes?

32. Were the proper resources (e.g., equipment, tools or materials) required to perform the job or task readily available and in proper condition?

33. Did supervisors ensure employees were trained and proficient before assigning them to their jobs?