What Get’s Investigated?
Accident vs. Incident

Accident - An unplanned, unwanted, but controllable event which disrupts the work process and causes injury to people.

Incident - An unplanned and unwanted event which disrupts the work process and has the potential of resulting in injury, harm, or damage to persons or property.
Why investigate?

• Prevent future incidents (leading to accidents).
• Identify and eliminate hazards.
• Expose deficiencies in process and/or equipment.
• Reduce injury and worker compensation costs.
• Maintain worker morale.
What should the results be?
Causes

• **Direct Cause** – unplanned release of energy or hazardous materials

• **Indirect Cause** – unsafe acts and/or unsafe conditions

• **Root Cause** – policies and decisions, personal factors, environmental factors
Identifying Precursors

• Reasonably detectable event, condition, or action that serves as warning sign of an event

• An unmitigated High Risk situation that will eventually result in a serious injury or fatality if allowed to continue
Simplified Root Cause Approach

• The “five whys”

My car will not start.

1) Why? - The battery is dead. (first why)

2) Why? - The alternator is not functioning. (second why)

3) Why? - The alternator belt has broken. (third why)

4) Why? - The alternator belt was well beyond its useful service life and has never been replaced. (fourth why)

5) Why? - I have not been maintaining my car according to the recommended service schedule. (fifth why/root cause)
Steps of Investigation

• Prepare
• Collect Evidence
• Analyze
• Report
• Take Corrective Action
Prepare

• Develop an Accident Investigation Program
• Prepare Investigation Kit
• Provide first aid and medical care
• Manage the scene (secure the scene, make sure it is safe for investigators to do their job)
• Manage witness (provide support and limit interaction with other witnesses)
• Report the incident
Prepare: Accident Investigation Program

• How and when management is to be notified
• OSHA Notification Procedures
• Who is authorized to notify outside agencies (fire, police, etc.)
• Who will conduct investigations (training?)
• Timetables for investigation and recommendations
• Who will receive investigation recommendations
• Who will be responsible for implementing corrective actions
• Who will ensure effectiveness of corrective actions
Prepare: Who conducts the investigation?

- experienced in incident causation models
- experienced in investigative techniques
- knowledgeable of any legal or organizational requirements
- knowledgeable in occupational health and safety fundamentals
- knowledgeable in work processes and environment for situation
- able to use interview/other person-to-person techniques
- knowledgeable of requirements for records and data collection
- able to analyze data gathered and reach recommendations
Prepare: Notifying OSHA

• All work-related fatalities within 8 hours

• All work-related inpatient hospitalizations within 24 hours

• All amputations within 24 hours

• All losses of an eye within 24 hours
Sample Items Investigators Kit

- Camera
- Charged Batteries (phones, cameras, equipment, etc.)
- Video / Audio recorder
- Measuring devices
- Leveling rod
- Clipboard and writing pad
- Pens, pencils, markers
- Graph paper
- Paint stick (yellow/black)
- Straight-edge ruler (scale reference in photos)
- Incident investigation forms
- Flashlight
- Strings, stakes, warning tape
- Photo marking cones
- PPE
- Magnifying glass
- High visibility plastic tapes to mark off area
- First aid kit
- Latex gloves
- Containers with seals
- Identification tags
Collect Evidence

Evidence framework based on information needed to determine causes

Types of Evidence

- Physical evidence
- Witness Statements
Collect Evidence: Framework

• Who
• What
• When
• Where
• Why
• How
Collect Evidence: Framework

Incident Categories

• Task
• Material
• Work Environment
• Personnel
• Management
Collect Evidence: Framework

• Task
  • Was a safe work procedure used?
  • Had conditions changed to make the normal procedure unsafe?
  • Were the appropriate tools and materials available?
  • Were they used?
  • Were safety devices working properly?
  • Was lockout used when necessary?

For most questions, important root cause follow-up "If not, why not?" or “Why?”
Collect Evidence: Framework

- **Material**
  - Was there an equipment failure?
  - What caused it to fail?
  - Was the machinery poorly designed?
  - Were hazardous products involved?
  - Were they clearly identified?
  - Was a less hazardous alternative product possible and available?
  - Was the raw material substandard in some way?
  - Should personal protective equipment (PPE) have been used?
  - Was the PPE used?
  - Were users of PPE properly educated and trained?
Collect Evidence: Framework

• **Work Environment**
  • What were the weather conditions?
  • Was poor housekeeping a problem?
  • Was it too hot or too cold?
  • Was noise a problem?
  • Was there adequate light?
  • Were toxic or hazardous gases, dusts, or fumes present?
Collect Evidence: Framework

• Personnel
  • Did the worker follow the safe operating procedures?
  • Were workers experienced in the work being done?
  • Had they been adequately educated and trained?
  • Can they physically do the work?
  • What was the status of their health?
  • Were they tired?
  • Was fatigue or shiftwork an issue?
  • Were they under stress (work or personal)?
  • Was there pressure to meet a deadline/by-pass safety procedures
Collect Evidence: Framework

• **Management**
  - Were safety rules communicated to and understood by all employees?
  - Were written procedures and orientation available?
  - Were the safe work procedures being enforced?
  - Was there adequate supervision?
  - Were workers educated and trained to do the work?
  - Had hazards and risks been previously identified and assessed?
  - Had procedures been developed to eliminate hazards or control risks?
  - Were unsafe conditions corrected?
  - Was regular maintenance of equipment carried out?
  - Were regular safety inspections carried out?
  - Had condition/concern been reported beforehand and action taken?
Collect Evidence: Physical Evidence

• Physical evidence
  • tools/equipment or parts/pieces
  • photos
  • samples
  • design specifications
  • operating logs
  • purchasing records
  • previous reports procedures
  • equipment manuals
  • job safety analysis reports
  • training records
New Rule – Anti-Retaliation

Violations

• Employee reports injury

• Employer’s policy requires drug test

• Employee tested

• Employee complains to OSHA employer retaliated by mandating drug test that was not needed
New Rule – Anti-Retaliation

Violations?

- OSHA “does not ban drug testing”

- Policies should limit post-incident testing to situations in which employee drug use is likely to have contributed to the incident

- “Employers need not specifically suspect drug use before testing, but there should be a reasonable possibility that drug use” was a “contributing factor”

- What is unreasonable?
New Rule – Anti-Retaliation

Compliance

• Substance Abuse Programs should be in writing and contain all of the following:
  o Pre-employment testing
  o Random
  o Reasonable Suspicion and
  o Post-Incident Testing according to policies and procedures clearly communicated to all parties involved and consistently managed
New Rule – Anti-Retaliation

Drug Testing Exemptions:

• Testing to comply with other laws

• Testing for discount on workers’ comp rates under state’s voluntary drug-free workplace program

• Testing for discount from private workers’ comp carrier
Collect Evidence: Physical Evidence

• Photo Tips
  • Always make notes about the photos taken
  • Start by taking distance shots then move in to take closer photos
  • Take photos at different angles
  • Take panoramic photos to present entire scene, top-bottom/side-side
  • Take notes on each photo
  • Identify and document photo
  • Place an item of known dimensions in the photo
  • Identify the person taking the photo
  • Indicate the locations where photos were taken on sketch
Collect Evidence: Physical Evidence

• Sketch the Scene Techniques
  • Make sketches large; at least 8” x 10” and clear, be sure to print legibly
  • Include “Incident Details” (i.e., time, date, injured, location, conditions)
  • Include measurements (distances, etc.) and use permanent points
  • Indicate directions – N= North; E= East; W= West; S= South
  • Make notes on sketch to provide additional information such as the photo location and/or where people were at the time of the incident

The sketch can be used during interviews to help interviewees identify their location before, during or after the incident
Collect Evidence: Witness Statements

Interviewing - DOs...

- conduct interviews as soon as possible
- put the witness, who is probably upset, at ease
- emphasize reason for investigation, determine what happened and why
- make short notes or ask someone else to take them during interview
- ask if it is okay to record the interview, if you are doing so
- let the witness talk, listen
- confirm that you have the statement correct
- try to sense any underlying feelings of the witness
- close on a positive note
Collect Evidence: Witness Statements

Interviewing – DON’Ts...

• intimidate the witness
• interrupt
• prompt
• ask leading questions
• show your own emotions
• jump to conclusions
Collect Evidence: Witness Statements

Interviewing - Ask open-ended not "yes" or "no" questions

• Where were you at the time of the incident?
• What were you doing at the time?
• What did you see, hear?
• What were work environment conditions (weather, light, noise, etc.)?
• What was (were) the injured worker(s) doing at the time?
• In your opinion, what caused the incident?
• How might similar incidents be prevented in the future?
Analysis

• Assemble all information to be able to review at one time
• Look for all pertinent facts
• Review, correlate and pose hypothetical causes
• Keep an open mind to all possibilities
• If gaps in understanding re-interview or look for other data
• Outline potential direct, indirect, contributing and root causes
• Have a second individual conduct an independent review
• Test potential causes - Review again affirm or reject each
Analysis

• Check conclusions to see if:
  
  • it is supported by evidence
  
  • the evidence is direct (physical or documentary) or based on eyewitness accounts, or
  
  • the evidence is based on assumption.
Report

• Provide an accurate narrative of “what happened” include details

• Clear description of causes (direct, indirect and root causes)

• Reasons for your conclusions

• Recommended immediate corrective action

• Recommended long-term corrective action
Corrective Actions

• Respond to recommendations given by explaining what can and cannot be done (and why or why not)
• Develop a timetable for corrective actions
• Monitor that the scheduled actions have been completed
• Check the condition of injured worker(s)
• Educate and train other workers at risk
• Re-orient worker(s) on their return to work
• Review to assure correction is effective
Questions

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