

CEM OHSE Root Cause Investigation Analysis Chart



STEP 1
What Kind of Incident ?

- | | | | | | |
|---|--|---|---|---|---|
| Accident
<input type="checkbox"/> Collision
<input type="checkbox"/> Explosion
<input type="checkbox"/> Fire
<input type="checkbox"/> Hazardous Substance Released
<input type="checkbox"/> Occupational Health Related | Crime
<input type="checkbox"/> Theft
<input type="checkbox"/> Violent Crime
<input type="checkbox"/> Workplace Violence
<input type="checkbox"/> Harassment
<input type="checkbox"/> Fraud
<input type="checkbox"/> Other | Environment
<input type="checkbox"/> Pollution
<input type="checkbox"/> Erosion
<input type="checkbox"/> Spillage
<input type="checkbox"/> Emissions | Equipment
<input type="checkbox"/> Component
<input type="checkbox"/> Structural
<input type="checkbox"/> Other | Laboratory
<input type="checkbox"/> Undergraduate
<input type="checkbox"/> Postgraduate
<input type="checkbox"/> Research | Natural Disaster
<input type="checkbox"/> Flooding
<input type="checkbox"/> Storm
<input type="checkbox"/> Wildfires
<input type="checkbox"/> Lightening |
|---|--|---|---|---|---|

STEP 2
Consequences or Losses

- | | | |
|--|---|--|
| <input type="checkbox"/> Damage
<input type="checkbox"/> Illness
<input type="checkbox"/> Injury
<input type="checkbox"/> Research Loss | <input type="checkbox"/> Assets Loss
<input type="checkbox"/> Criminal Liability
<input type="checkbox"/> Financial Loss
<input type="checkbox"/> Image/Reputation | <input type="checkbox"/> Substandard Quality/Service
<input type="checkbox"/> Other |
|--|---|--|

STEP 3
Incident or Event

- | | | | | | |
|---|--|---|---|---|---|
| Type of Contact
<input type="checkbox"/> Caught between or under
<input type="checkbox"/> Caught in
<input type="checkbox"/> Contact on or with
<input type="checkbox"/> Fall from Elevation to Lower Level
<input type="checkbox"/> Fall of Ground
<input type="checkbox"/> Fall on Same Level
<input type="checkbox"/> Struck against or by | General Agency
<input type="checkbox"/> Animals/Insects/People
<input type="checkbox"/> Building/Structure
<input type="checkbox"/> Compressed Air
<input type="checkbox"/> Container
<input type="checkbox"/> Expired Product
<input type="checkbox"/> Equipment
<input type="checkbox"/> Electricity
<input type="checkbox"/> Explosive Device/Chemical
<input type="checkbox"/> Explosion | General Agency
<input type="checkbox"/> Fire
<input type="checkbox"/> Hand tools/Power tools
<input type="checkbox"/> Handling
<input type="checkbox"/> Ladder/Stairs
<input type="checkbox"/> Lifting Equipment
<input type="checkbox"/> Materials/Goods
<input type="checkbox"/> Metal Hot or Cold
<input type="checkbox"/> Natural Phenomenon
<input type="checkbox"/> Obstruction | General Agency
<input type="checkbox"/> Over Pressurised
<input type="checkbox"/> Overstressed
<input type="checkbox"/> Pressure Positive or Negative
<input type="checkbox"/> Projectile
<input type="checkbox"/> Sharp Edge
<input type="checkbox"/> Surface
<input type="checkbox"/> Transport
<input type="checkbox"/> Vessels | Occupational Agency
<input type="checkbox"/> Biological
<input type="checkbox"/> Chemical /Waste
<input type="checkbox"/> Cold
<input type="checkbox"/> Dust
<input type="checkbox"/> Ergonomical
<input type="checkbox"/> Fumes
<input type="checkbox"/> Gases
<input type="checkbox"/> Heat
<input type="checkbox"/> Illumination | Occupational Agency
<input type="checkbox"/> Noise
<input type="checkbox"/> Occupational
<input type="checkbox"/> Psychological
<input type="checkbox"/> Radiation
<input type="checkbox"/> Smoke
<input type="checkbox"/> Vapours |
|---|--|---|---|---|---|

STEP 4
Risk or Loss Potential

LIKELIHOOD OF RECURRENCE OF EVENT		CONSEQUENCE / SEVERITY				
		Minor Injury	Temporary Disability	Permanent Disability	Fatality	Multiple Fatalities
		Low	Minor	Moderate	Major	Critical
1 or more times per week	Almost Certain	Moderate	High	Extreme	Extreme	Extreme
Occurs once per month	Likely	Moderate	High	High	Extreme	Extreme
Occurs once per year	Possible	Low	Moderate	High	Extreme	Extreme
Occurs once every 10 years	Unlikely	Low	Low	Moderate	High	Extreme
Occurs once in a lifetime	Rarely	Low	Low	Low	Moderate	High

RISK LEVEL	INVESTIGATION TYPE	INVESTIGATOR
LOW RISK	PRELIMINARY	SHE-REP/ LAB MANAGER
MODERATE RISK	CAUSAL	LAB MANAGER/SUPERVISOR
HIGH RISK	RCAT	CEM OSHE UNIT
EXTREME RISK	RCAT	CEM OSHE UNIT/HOD

EVIDENCE GATHERING	DESCRIPTION
WHO?	WITNESSES TO WHAT HAPPENED
WHERE?	PHOTO OR DRAWING OF WHAT HAPPENED
WHAT?	WHAT WAS INVOLVED/HAPPENED
WRITTEN?	PAPER EVIDENCE: TRAINING
HOW?	NORMAL PROCESS AND ANY DEVIATION

STEP 5
Immediate Causes

- | | | | | | |
|---|---|---|--|--|---|
| Procedure
<input type="checkbox"/> Deviation of SOP by an Individual
<input type="checkbox"/> Deviation of SOP by a Research Group
<input type="checkbox"/> Unauthorized Usage of Equipment
<input type="checkbox"/> Improper Position for Task
<input type="checkbox"/> Overexertion
<input type="checkbox"/> Shortcuts | Use of Equipment
<input type="checkbox"/> Improper use of Equipment
<input type="checkbox"/> Using Defective Equipment
<input type="checkbox"/> Servicing of Equipment in Operation | Protective Methods
<input type="checkbox"/> Equipment or Safeguards Not Secured
<input type="checkbox"/> Improper Use of PPE
<input type="checkbox"/> Lack of Knowledge of Hazard Present
<input type="checkbox"/> No PPE or Not Available | Inattention
<input type="checkbox"/> Acts of Violence
<input type="checkbox"/> Distracted by Others, Not Paying Attention to Surroundings
<input type="checkbox"/> Failure to Make Safe
<input type="checkbox"/> Horseplay
<input type="checkbox"/> Lack of Judgement
<input type="checkbox"/> Routine Activity Without Thought
<input type="checkbox"/> Use of Alcohol or Drugs | Work Exposure
<input type="checkbox"/> Clutter/Debris
<input type="checkbox"/> Fire
<input type="checkbox"/> Explosion
<input type="checkbox"/> Energized Electrical Equipment
<input type="checkbox"/> Extreme Temperatures
<input type="checkbox"/> Hazardous Chemicals/Waste
<input type="checkbox"/> Hazardous & Flammable Gases
<input type="checkbox"/> Radiation
<input type="checkbox"/> Slippery Floors or Walkways
<input type="checkbox"/> Storms or Act of Nature | Laboratory
<input type="checkbox"/> Congestion/Restricted Motion
<input type="checkbox"/> Defective Warning Systems
<input type="checkbox"/> Extraction Failure
<input type="checkbox"/> Inadequate or Excessive Illumination
<input type="checkbox"/> Inadequate Ventilation
<input type="checkbox"/> Inadequate Workspace Layout
<input type="checkbox"/> Power Failure
<input type="checkbox"/> Water Failure |
|---|---|---|--|--|---|

STEP 6
Root Causes

Inadequate Physical Capabilities	Inadequate Physical Conditions	Inadequate Mental State	Mental Stress	Behaviour	Inadequate Skill Level	Inadequate Knowledge Transfer	Inadequate Management or Leadership	Inadequate Engineering Design	Inappropriate Protocols being Followed	Inadequate SOPs and Policies	Inadequate Communication
<input type="checkbox"/> Diminished Capacity due to Medication or Drug or Alcohol <input type="checkbox"/> Inability to Sustain Body Position <input type="checkbox"/> Restricted Range of Movement <input type="checkbox"/> Sensory Deficiency <input type="checkbox"/> Reduced Respiratory Capacity <input type="checkbox"/> Sensitivities or Allergies to Chemicals <input type="checkbox"/> Temporary or Permanent Disabilities	<input type="checkbox"/> Atmospheric Pressure Variation <input type="checkbox"/> Blood Sugar Levels <input type="checkbox"/> Diminished Performance due to Temperature Extremes <input type="checkbox"/> Fatigue due to Workload <input type="checkbox"/> Previous Illness or Injury <input type="checkbox"/> Oxygen Deficiency	<input type="checkbox"/> Emotional Disturbances <input type="checkbox"/> Fears or Phobias <input type="checkbox"/> Memory Failure <input type="checkbox"/> Poor Judgement <input type="checkbox"/> Poor Coordination or Reaction Time	<input type="checkbox"/> Confusion <input type="checkbox"/> Frustration <input type="checkbox"/> Emotional Overload <input type="checkbox"/> Extreme Judgement Demands <input type="checkbox"/> Extreme Concentration <input type="checkbox"/> Extreme Boredom <input type="checkbox"/> Meaningless Task <input type="checkbox"/> Preoccupation	<input type="checkbox"/> Habits <input type="checkbox"/> Improper Performance Rewarding <input type="checkbox"/> Improper Supervisory Mentoring <input type="checkbox"/> Inadequate Identification of Critical Safe Behaviour <input type="checkbox"/> Inappropriate Aggression <input type="checkbox"/> Supervisor Implied Haste <input type="checkbox"/> Vandalism	<input type="checkbox"/> Inadequate Assessment of Required Skill <input type="checkbox"/> Inadequate Practice of Skill <input type="checkbox"/> Infrequent Performance of Skill <input type="checkbox"/> Insufficient Review of Instruction and Established Skill <input type="checkbox"/> Lack of Training	<input type="checkbox"/> Inadequate Knowledge Transfer <input type="checkbox"/> Inadequate Recall of Training due not Being Enforced <input type="checkbox"/> Inadequate Training <input type="checkbox"/> No Training Provided	<input type="checkbox"/> Conflicting Roles and Responsibilities <input type="checkbox"/> Inadequate Leadership <input type="checkbox"/> Inadequate Correction from Prior Hazard/Incident <input type="checkbox"/> Inadequate Identification of Hazards <input type="checkbox"/> Inadequate Incident Reporting <input type="checkbox"/> Inadequate Safety Meetings	<input type="checkbox"/> No or Inadequate Risk Assessment <input type="checkbox"/> Inadequate SOPs <input type="checkbox"/> Inadequate Assessment of Potential to Fail <input type="checkbox"/> Inadequate Ergonomic Design <input type="checkbox"/> Inadequate Repair or Communication of Repair <input type="checkbox"/> Excessive Wear and Tear <input type="checkbox"/> Inadequate Audits	<input type="checkbox"/> Incorrect or Inadequate Equipment or Chemicals Used <input type="checkbox"/> Improper Identification of Hazard <input type="checkbox"/> Improper Waste Disposal <input type="checkbox"/> No or Inadequate Logbook for Equipment	<input type="checkbox"/> No or Inadequate SOPs and Policies <input type="checkbox"/> Inadequate Development of SOPs and Policies <input type="checkbox"/> Inadequate Implementation of SOPs and Policies <input type="checkbox"/> Inadequate Enforcement of SOPs and Policies <input type="checkbox"/> Inadequate Communication of SOPs and Policies	<input type="checkbox"/> Cultural Communication Barriers <input type="checkbox"/> Inadequate Communication Between Peers <input type="checkbox"/> Inadequate Communication Between Groups <input type="checkbox"/> Inadequate Communication of Health and Safety Data <input type="checkbox"/> Incorrect Instructions <input type="checkbox"/> No or Inadequate Communication Methods

STEP 7
Identified Root Causes

