Accident / Incident Investigation Participants Guide

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A Guide to Safety Excellence;

In memory of Craig Marshall

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Accident / Incident Investigation

Mission

and

Objectives

Accident / Incident Investigation

OUR MISSION

We must provide a safe, accident free work place where employees feel free to report **ALL** incidents in order to help identify root causes and eliminate the possibility for a recurrence.

Accident / Incident Investigation

♦ Investigate incidents to determine the root cause

♦ Define corrective action plans directed at preventing a recurrence of an incident

> *Improved safety performance*
> *and*
> *reduced workers compensation costs*

Accident / Incident Investigation

A well defined Accident / Incident Investigation Process is a critical element of the Cal OSHA Voluntary Protection Program.

A good Incident Investigation Program includes:

- *Investigation team identified*

- *Written procedures*

- *Tracking of hazard correction*

- *Process to communicate findings / corrections to all employees*

Accident / Incident Investigation

Organizing Your Investigation

(Building Your Team)

Accident / Incident Investigation

INVESTIGATIONS

A Systematic Approach to:

Identify **Root Causes of an incident**

Define **corrective actions to prevent similar recurrence**

> *An Effective Incident Investigation Process*
> *Will Improve Overall Safety Performance*

Accident / Incident Investigation

ALL OCCURRENCES NEED AN INVESTIGATION

♦**Injuries**

♦**Illnesses**

♦**Incidents**

♦**Near Misses**

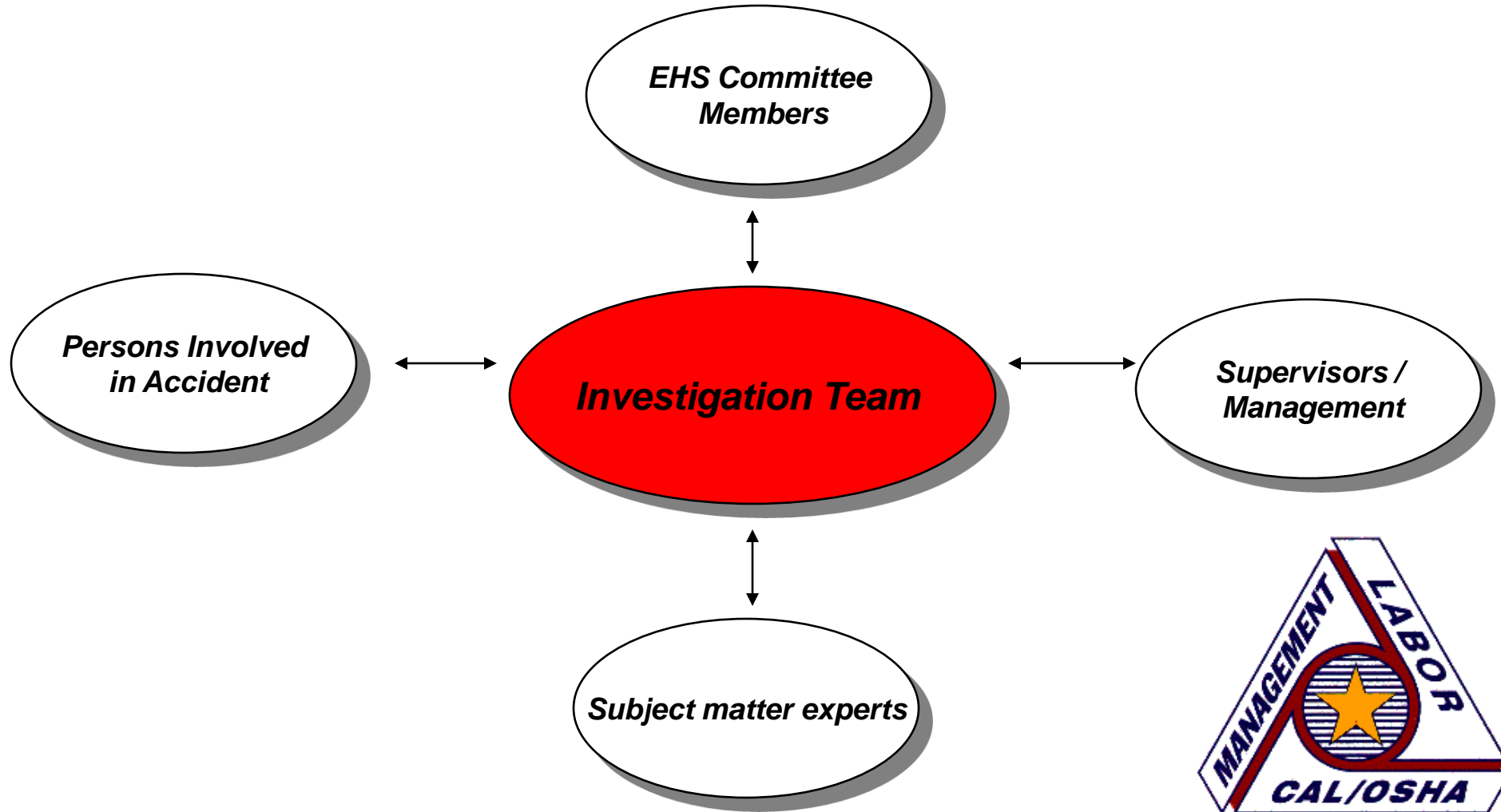♦**Property Damage & Fires**

♦**Spill/Release (air, water, ground)**

DEFINITIONS

- ACCIDENT - The National Safety Council defines an accident as an undesired event that results in personal injury or property damage.

- INCIDENT - An incident is an unplanned, undesired event that adversely affects completion of a task.

- NEAR MISS - Near misses describe incidents where no property was damaged and no personal injury sustained, but where, given a slight shift in time or position, damage and/or injury easily could have occurred.

https://www.osha.gov/SLTC/etools/safetyhealth/mod4_factsheets_accinvest.html

Accident / Incident Investigation
INVESTIGATION PARTICIPANTS

EHS Committee Members

Persons Involved in Accident

Investigation Team

Supervisors / Management

Subject matter experts

MANAGEMENT LABOR
CAL/OSHA

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SUPERVISORS, EHS COMMITTEES, AND EMPLOYEES MUST BE INVOLVED IN THE PROCESS

They Know the Jobs, Working Conditions, and Employees.

They Need to Know the Causes of Accidents to Prevent similar Occurrences.

Problem-identification Skills are Enhanced.

Accident / Incident Investigation

Gathering
Your
Information

Accident / Incident Investigation

ELEMENTS OF A GOOD INVESTIGATION

A **documented procedure** is in place when an employee reports an accident, *incident* or *near miss.*

Procedures include instructions for medical treatment of employees for all shifts.

Employees are trained to report accidents immediately to their immediate supervisor.

Accurate and Complete Information (Not fault Finding)

Descriptions of the "Sequence of Events" Accident

Identification of Factors Contributing to the Accident

Accident / Incident Investigation

ELEMENTS OF A GOOD INVESTIGATION

- Root causes and corrective actions are identified in timely

- Investigation report is reviewed by H&S

- programs i.e. JSA, training are reviewed and updated

- Root causes &corrective actions are implemented and communicated to employees

- Incident Trends and statistical analysis

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HOW TO CONDUCT A GOOD INVESTIGATION

Get the Facts

Questions to Ask

Conducting the Interviews

Define Root Causes

Define Effective Corrective Actions

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GET THE FACTS

1. Visit Scene of Accident before Physical Evidence is Disturbed.

2. Make Visual Records (Sketches, Photographs, Notes, Condition of Area).

3. Determine What Accident-Related Items Should Be Preserved.

4. Identify the People Who Can Help Determine Accident Causes. (Witness)

5. Interview People As Soon As Possible.

6. Document/Review Sources of Information Procedures and Policies.

7. Reenactment "Show me what happened".

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GET THE FACTS

When "getting the facts", be sure to:

♦Separate facts from opinion.
♦Direct Evidence From Circumstantial Evidence.
♦Witness Testimony From Hear Say.

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QUESTIONS TO ASK (ANSWER)

- **WHO** Was Involved in the Accident?

- **WHEN** Did the Accident Occur?

- **WHERE** Did the Accident Occur?

- **WHAT** Were the Persons Involved Doing at the Time?

- **WHY** Did the Accident Happen?

"HOW Could the Event Have Been Prevented?"

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CONDUCTING THE INTERVIEW

1. Interview Witnesses Promptly, Separately and Privately.

   Put the person at ease, show concern

2. Explain the Purpose of the Investigation.

3. Ask the Witness to Give Their Version.

4. Avoid Any Suggestion of Blame, Name-Calling.

5. Try Not to Put Ideas In Their Mind.

6. Ask questions to clarify your understanding.

7. Avoid Questions That Give a Yes or No Answer.

8. Document Any Concerns Identified in the Interview.

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Organizing

Your

Information

Accident / Incident Investigation

## Events and Causal Factor Charting:

- Events & Causal Factor Charting (E&CF) was developed by the National Transportation Safety Board (NTSB) to aid investigators in organizing and communicating information gathered during the investigation.

- **A picture is worth a thousand words**. E&CF provides a graphical depiction of the events that occurred leading up to an incident or injury.

- Critical to Process Steps are identified.

- Provides a format for incident investigation teams to

  analyze events and root causes without assigning blame.

Event :

• State what happened in sequential order.

•Include one action in each event box. Include date, time, and function.

•Do not use proper names.

•Keep asking, "What happened next?"

Incident : Put the reason why you are conducting the incident investigation in a circle.

Connect Events with arrows

Connect conditions with a line to the event it is associated with
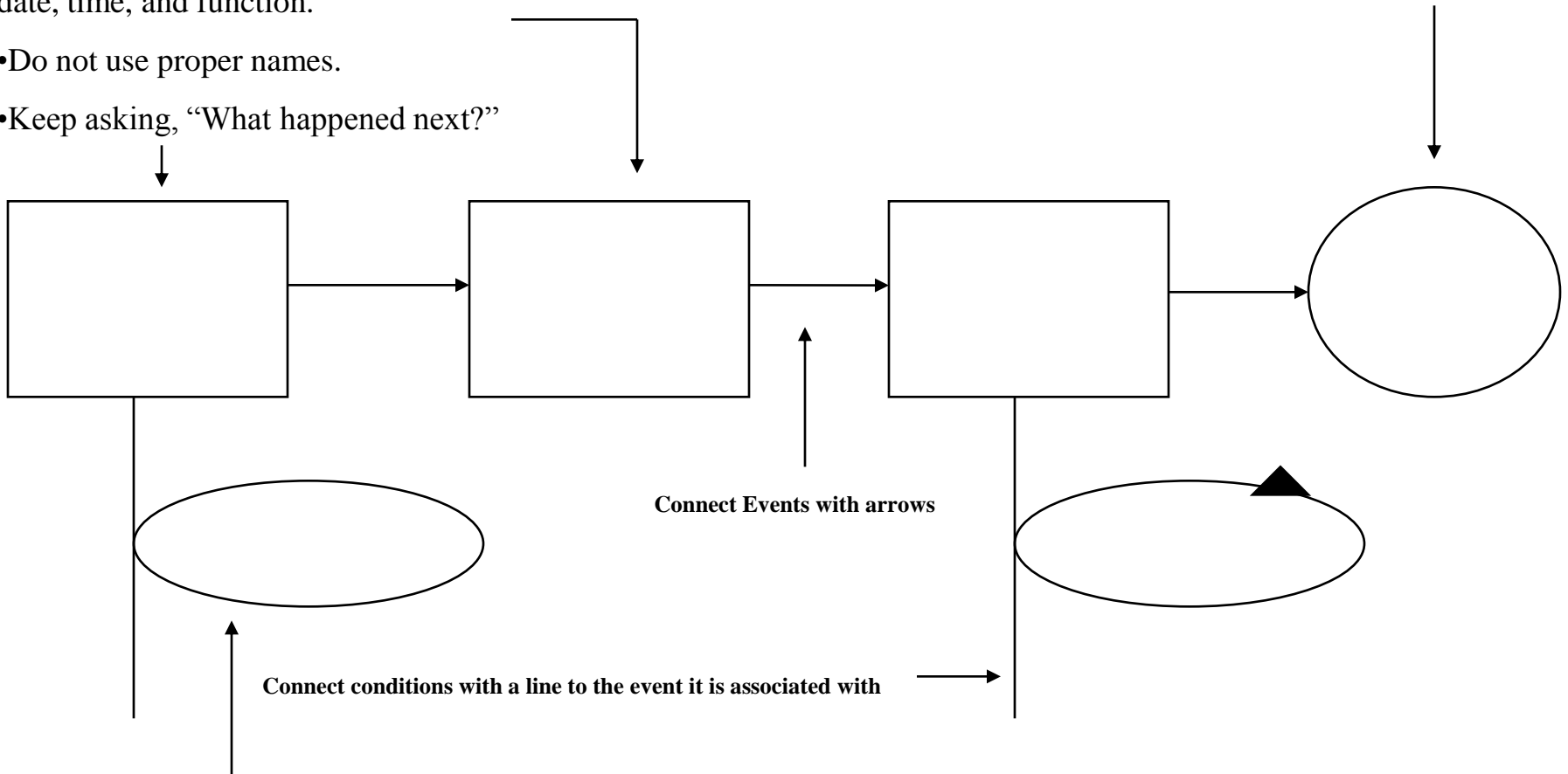
Conditions : In these ovals, put additional information or circumstances surrounding the event it is associated with.

Causal Factor : Identify causal factors by asking, "If I removed this condition, would the incident not have occurred or been less severe?" Flag causal factors with a ▲
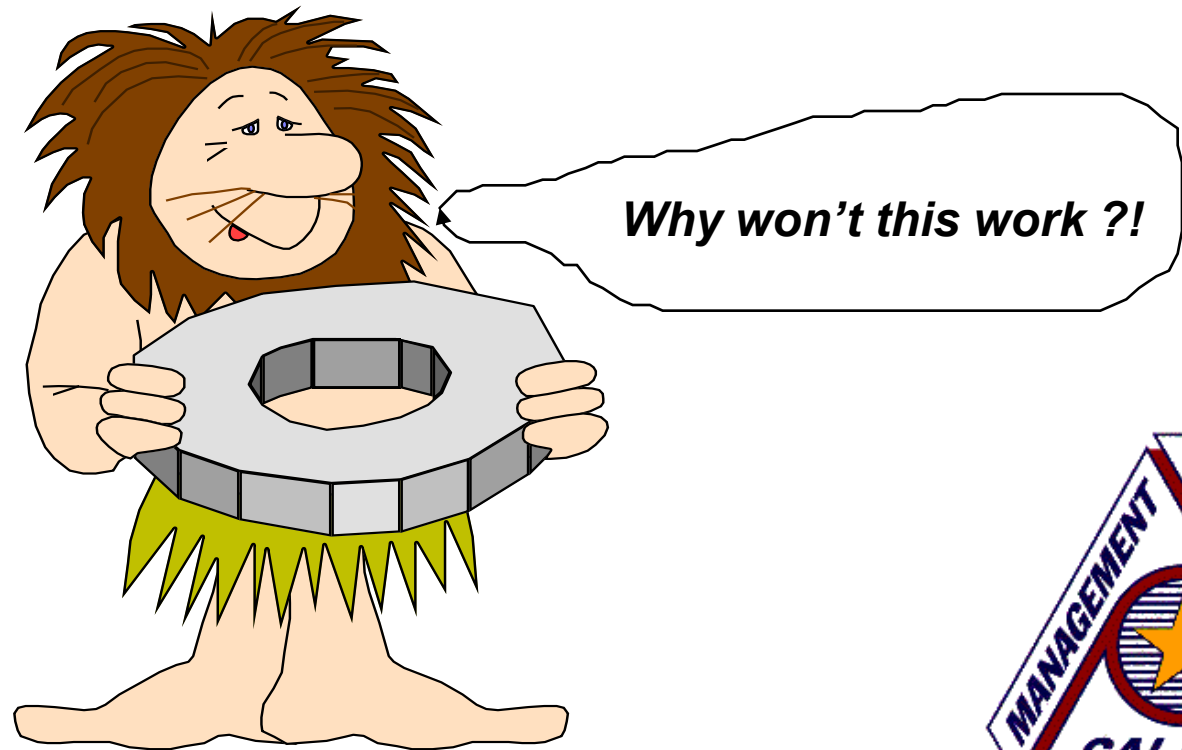
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TYPES OF CAUSES

ROOT CAUSE

     "The One Step In A Sequence Of Events That If Removed" The Accident Would Not Have Occurred"

CONTRIBUTING CAUSES

     "Other Concerns That Must Also Be Addressed"

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ROOT CAUSE ANALYSIS

♦ **Root Cause Analysis is essentially a deeper investigation of all potential causes of an incident. The process involves a team in gathering and analyzing of data to identify root causes and effective corrective actions that would prevent future incidents.**

Root Cause Analysis

- It is a tool for supporting continuous improvement

- Root causes usually connect to the Cal/VPP elements such as management, Contractors, Training.

- Serious incidents have failure at several safety management elements

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CAUSE AND EFFECT DIAGRAMS

♦5-Why Stairway

♦Fishbone Diagram

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USES OF CAUSE AND EFFECT DIAGRAMS

♦ **To Discover All Potential Causes**

♦ **To Visualize Possible Relationships Between Causes**

♦ **To Provide Focus For Discussion**

♦ **To Aid in Development of Incident Prevention Plans**

Event　　　**Why**

Employee Cut Finger	Concern: Machine Guard not on machine

5 WHY APPROACH

Why

Concern:
Mechanic did not replace after repairs were completed

Why

Concern:
Newly hired Mechanic could not find written job procedure for repair task

Why

Concern:
Procedure manual for this task never ordered

Why

Concern:
Person responsible forgot to place order for manual

Each Concern Requires An Action -

Even If It Is Not The Root Cause!

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EVALUATION of FISHBONE DIAGRAM

1. Ask members whether they can draw additional branches on the diagram as a result of the data analysis. The branches may be either new ones or extensions of existing branches.

2. Redraw the diagram from scratch. The Committee should do this because, having properly performed the data collection and analysis, the members will have greatly expanded their knowledge.

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Corrective Actions

♦ Immediate Action

   Recovery Steps

♦ Permanent Action

   Procedures & Plans initiated to prevent Recurrence

Each Concern Identified in the Process

Should Be Addressed

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Weaknesses in incident investigation

- Superficial incident investigations and incorrect corrective actions.

- Failure to report near misses.

- Minor incidents not reported.

- Downplaying incident reports.

- Failure to learn from previous incidents.

- Rewarding employees for low injury & illness rates.