



# SAFETY MANAGEMENT IN CONSTRUCTION INDUSTRIES

**Conducted by**

**Institution of Safety Engineers  
(India)**

**[www.iseindia.in](http://www.iseindia.in)**

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# INSTITUTION OF SAFETY ENGINEERS (INDIA)

## WELCOME

In Free Webinar Classes on

**SAFETY MANAGENET IN  
CONSTRUCTION  
INDUSTREIS**

on

**16 May 2020, 10:00 AM (IST)**

ISE (INDIA)





ISE (INDIA)

## ABOUT US

Institution of Safety Engineers (India) is Non - Profitable organisation set up in year 2012 under ZJEW Trust, Govt. Reg. No. 5240 and working with objective to prevent accident, protect environment & minimize losses during disaster. Institution of safety engineers (India) imparting safety, health, safety & quality related training to needy & provide similar services to industries, organization, institution to achieve zero harm.

## MEMBERSHIP SERVICES



## SAFETY HEALTH ENVIRONMENT RELATED TRAINING & SERVICES



## JOURNAL PUBLICATION

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Plan Present Protect

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**International Journal of Institution of Safety Engineers (India)**

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## OUR SPEAKER

**Mr. Shahnawaz:** Member & Expert EHS

**Mr. Mohd Tausif :** B.Tech, PDIS, Co-ordinator,  
Institution of Safety Engineers (India)

### **Mr. Shahnawaz**

He is graduate in Mech. Engineering, **M.Tech** (Env. Sc. & Eng.) from BIT, Durg, **PDIS from RLI Kol.**, NEBOSH-IGC and apart from this he has achieved several certification and Diploma in field of occupational Health & Safety from different reputed institution. He has Published several Articles/Journals related to occupational, Health Safety & Environment.

He has more than 15 year experience in Field of Safety, Health & environment as EHS professional in National/ Multinational company in India, Africa & Gulf. He is also Chartered Engineer (I), Life Time Associate Member of Institution of Engineers (India) & Life Time Senior Member of Institution of Safety Engineers (India) & Member of ZJEW Trust. In Past his Experience is in L & T, Shree Cement, Lohia Group, RNSN Seriate, IJT, Gammon India Ltd, like company. Apart from this he is Associated with several Non-Profitable organization as Member and Chief Editorial officer (CEO) of IJISEI.

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COURSE OUTLINE

# SAFETY MGT. IN CONSTRUCTION INDUSTRIES

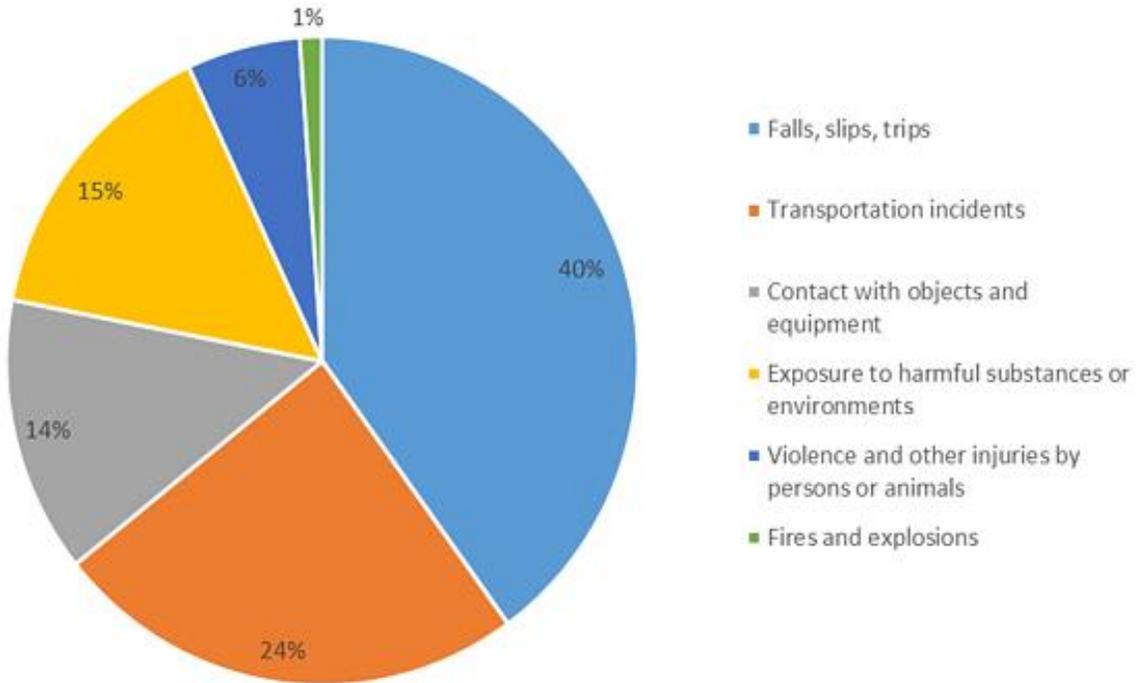


Construction industries is Hazardous prone industries. Every year several people killed & several injured due to unawareness of safety rule. At construction site day by day activity changes, so need to take adequate control measure to control risk at workplace. Construction industries playing vital role to growth of country.

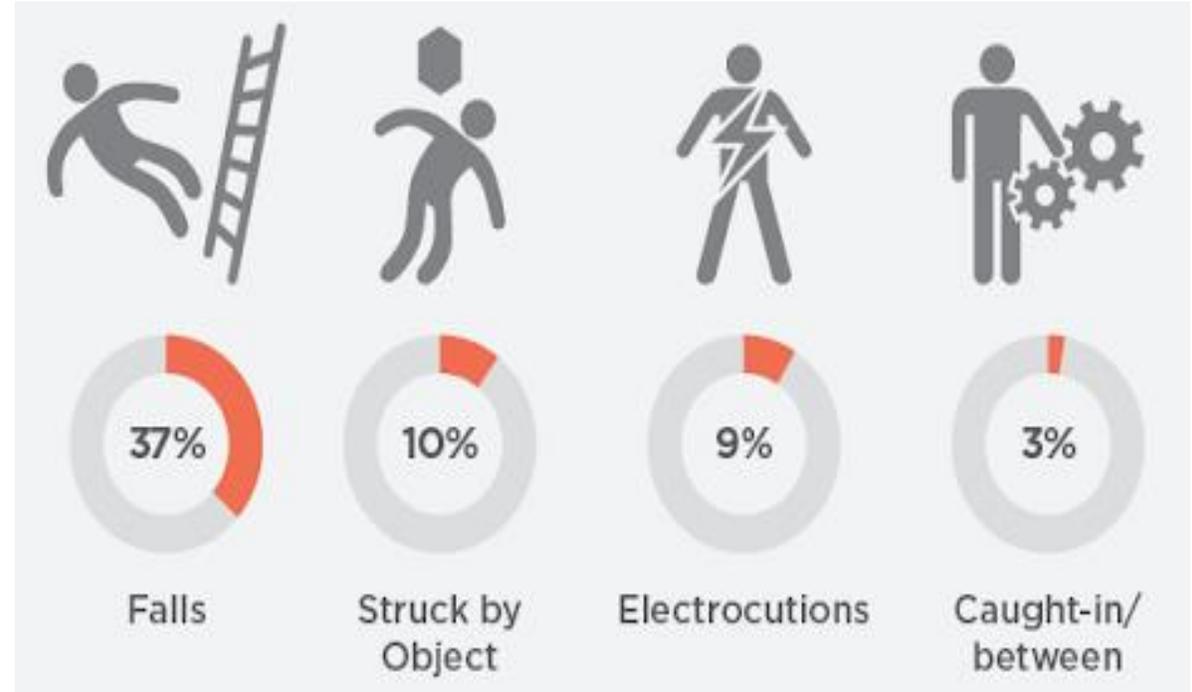
Construction industries has positive and Negative impacts. Positive impacts is good for country development and it create employment opportunities. Negative impacts is injury, Death of person and damage of environment that is very bad for any country.

Numbers of people injured and several killed due to ineffective safety management system in construction industries. Effective safety management system always help to create safe healthy work environment.

## CONSTRUCTION WORKERS FATALITY BY EVENT OR EXPOSURE



## CONSTRUCTION FATAL FOUR



OSHA, USA in year 2013

# OBJECTIVE



**ZERO HARM**

- To Know & Implement effective Safety Management System in Construction Industries
- Identify Magnitude of Risk & deciding whether this is tolerable or not
- To Control workplace risk
- Improving Safety performance within Construction Industries
- Loss Control
- Fulfilling Social & legal responsibility as Per respective State or Country legislation etc.

# PRINCIPLE OF SAFETY MANAGEMENT

Safety management begins with incident management.

Safety Management is major parameter of construction industries business to control work place risk and results of business success.

Causes of Accident in Construction Industries are basically Human & Mechanical Failure.

88% Accident occurs at Construction site due to unsafe Act, 10% Unsafe condition & 2% Natural causes as per Domino Theory

Risk related to construction industries can be minimised or control up to Tolerable level to take adequate Safety Control measure or Hazard control method.

Accident in Construction industries can be prevented to eliminate Hazard at work place & Prevent unsafe practices



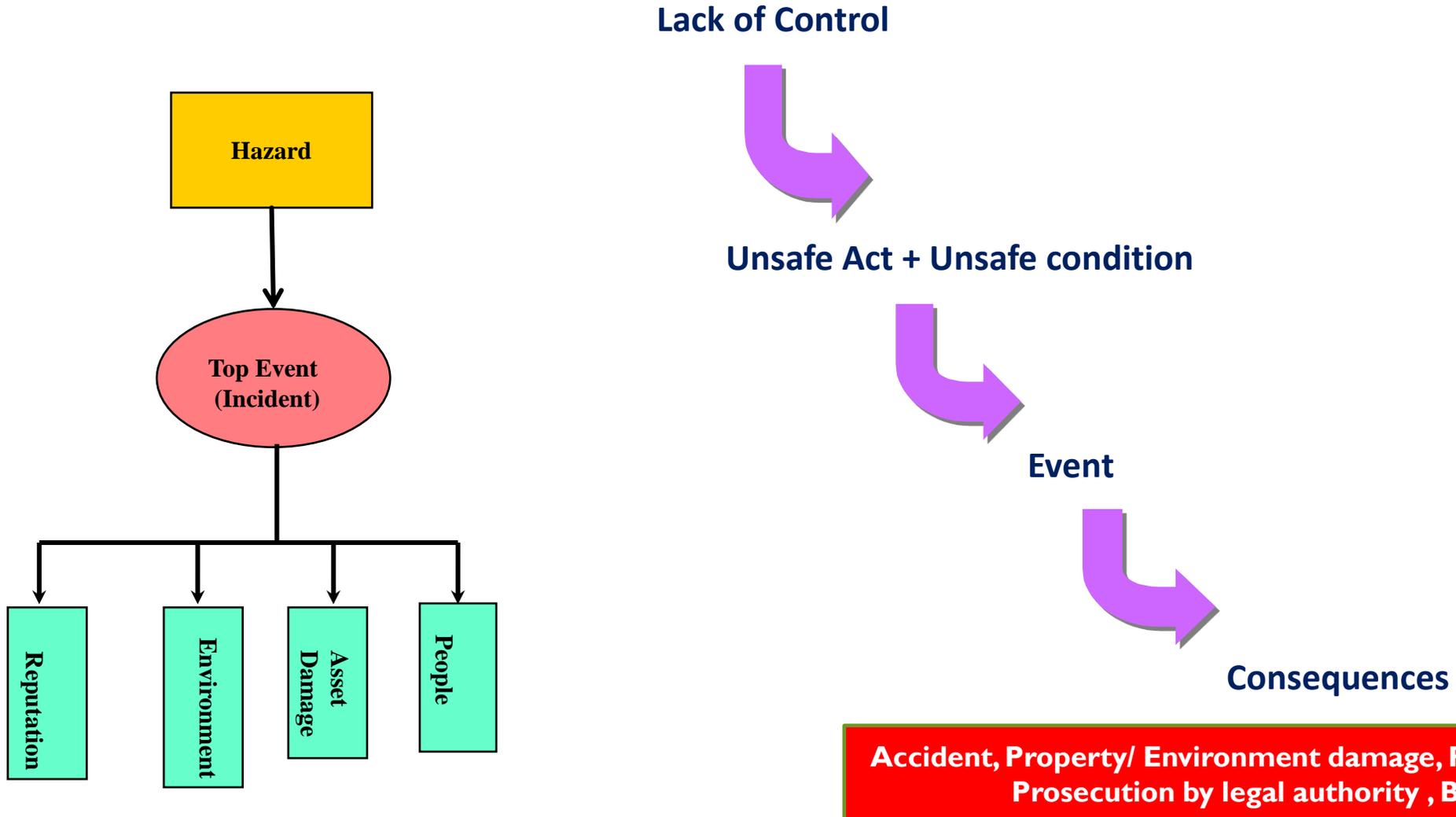
# CAUSES OF ACCIDENT IN CONSTRUCTION INDUSTRIES

**Unsafe Act & unsafe Condition** are basic cause of any Accident . When both conjugate at one point accident happened.

In other words, **Human and mechanical failure** are caused of accident.



# CHAIN OF EVENT IN CONSTRUCTION INDUSTRIES



# HAZARD IN CONSTRUCTION INDUSTRIES



# CLASSIFICATION OF HAZARD

## FALL HAZARD

- **Fall of Person** : Due to poor workmanship, loss of balance, uneven surface, floor opening, poor work platform, working at height without using full body harness, Defective ladder or stair, slippery floor, Loose material in assess etc. Slip & Trip hazard also comes under Fall hazard
- **Fall of Materials**: Due to failure of lifting appliances, Tools & tackles, Loose material Keeping at edge on height or near floor opening, Poor method of Material lifting & shifting etc.

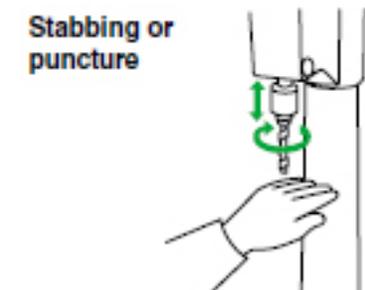
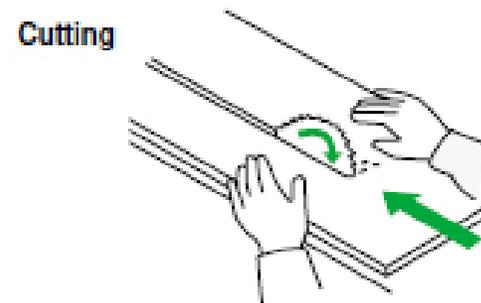
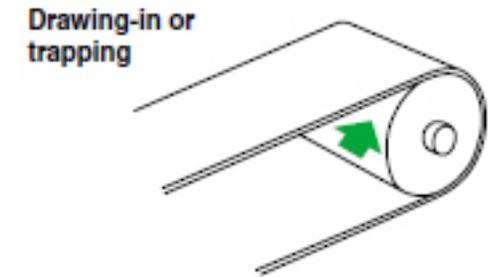
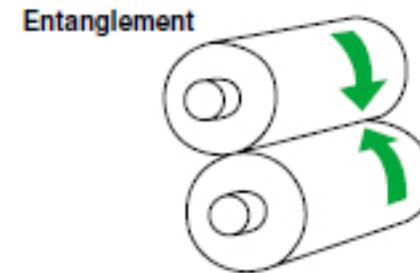
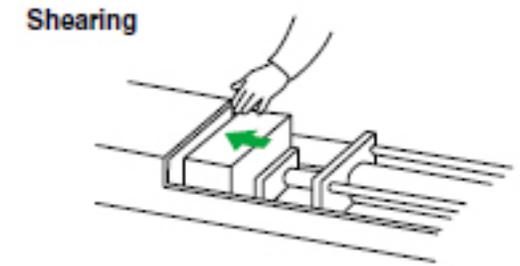
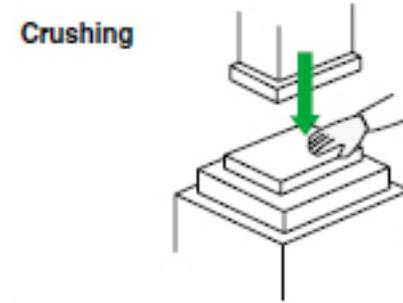


# CLASSIFICATION OF HAZARD

## MECHANICAL HAZARD:

Entanglement, Crushing, Shearing, Cutting, Drawing-in or trapping, Impact, Friction or abrasion, Stabbing or puncture etc. are few example of mechanical hazards.

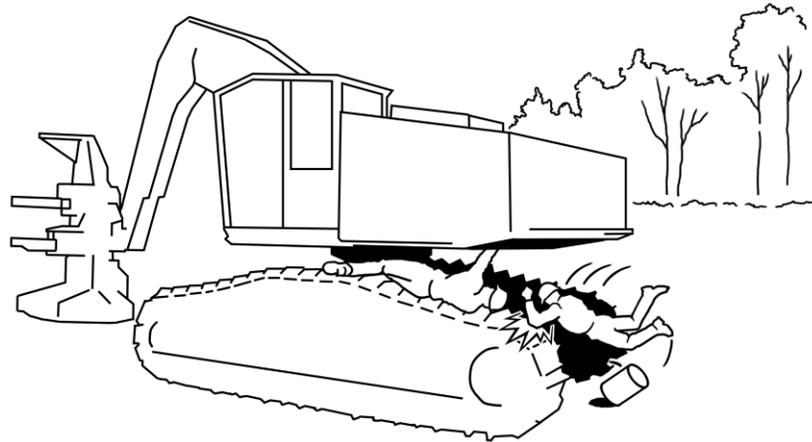
## MECHANICAL HAZARD



# CLASSIFICATION OF HAZARD

## VEHICLE & EARTH MOVING EQUIPMENTS RELATED HAZARD:

Vehicle movement may cause of hit to person, Hit to object or Collision or topples etc.



# CLASSIFICATION OF HAZARD

## FIRE HAZARD

Such as Flammable storage near heat sources, Cooking or any sources that have potential to cause of fire and fire accident results loss of lives and property



# CLASSIFICATION OF HAZARD

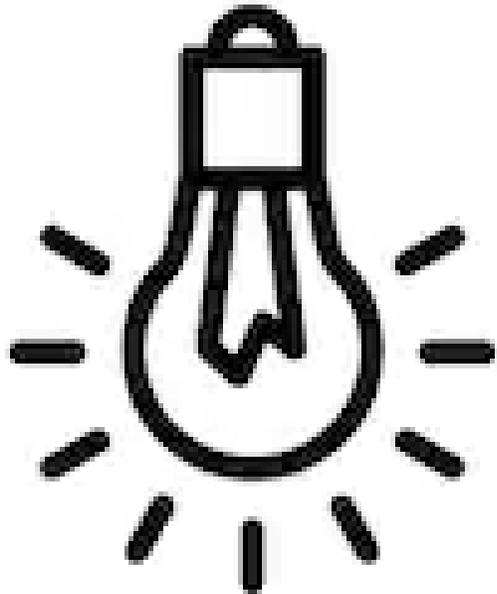
## ELECTRICAL HAZARD

Such as Defective electrical Tools, Damage power cable, Use of Non-standard hand tools during electrical work, Static electricity, over load electrical equipment may cause of Electrocution, Fire, Burn injury, eye flash, Fall due to electrical shock.



# CLASSIFICATION OF HAZARD

**Physical Hazard:** Such as Heat, Cold, Poor illumination etc. Heat may cause of heat stress, Cold may cause of cold stress, Poor illumination results eye strain or resulted any unsafe act



Vibration



Noise



Low Temp.



High Temp.

# CLASSIFICATION OF HAZARD

**CHEMICAL HAZARD** like dust, fumes, gases effect to central nervous system problem & respiratory problem due to inhalation and create skin problem when come in its contact.



# CLASSIFICATION OF HAZARD

## ENVIRONMENTAL HAZARD:

Such Potential Sources of harm that effect to environment and human being such as dust, fumes, Gases, NO<sub>x</sub>, SO<sub>x</sub>, Noise etc. Noise is also comes under physical hazard.

## ENVIRONMENTAL HAZARD



## CLASSIFICATION OF HAZARD

**Biological hazard** includes Bacteria, Viruses, Mold and Fungi, Blood and Body Fluids that found at construction site during catering operation facility or Occupational health center facility area may exposed to personnel through inhalation, ingestion, injection or contact with skin.

**BIOLOGICAL  
HAZARD**



**Radiation hazard** may be Ionizing radiation and non-ionising radiation. X-ray, Gama ray are example of Ionizing radiation and ultraviolet (UV), lasers, radiofrequency etc are example of Non-ionizing radiation, found at site of construction industries.



# CLASSIFICATION OF HAZARD

**ERGONOMICAL HAZARD** includes repetitive movement, manual handling, workplace/job/task design, uncomfortable workstation and poor body positioning. Therefore several types of Hazard found at construction at workplace of construction site.



# HAZARD IDENTIFICATION TECHNIQUES

- Job Safety Analysis
- Hazard identification & risk control
- Safety inspection
- Checklist based inspection
- Consultation with employees
- Near miss/Incident Investigation
- Fault tree Analysis
- What if Analysis
- Safety survey
- Safety Tours
- Safety audit
- HAZOP Study
- Construction Hazard Analysis

# HAZARD CONTROL METHOD IN CONSTRUCTION INDUSTRIES

Eliminate

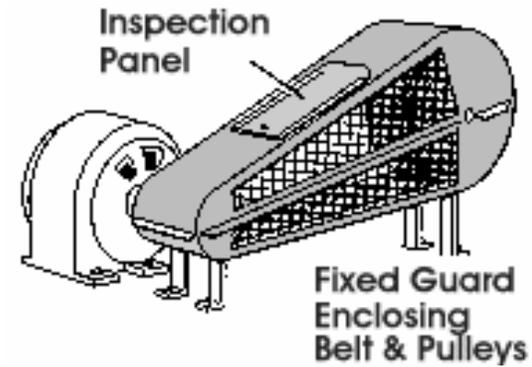
Isolate

Substitute

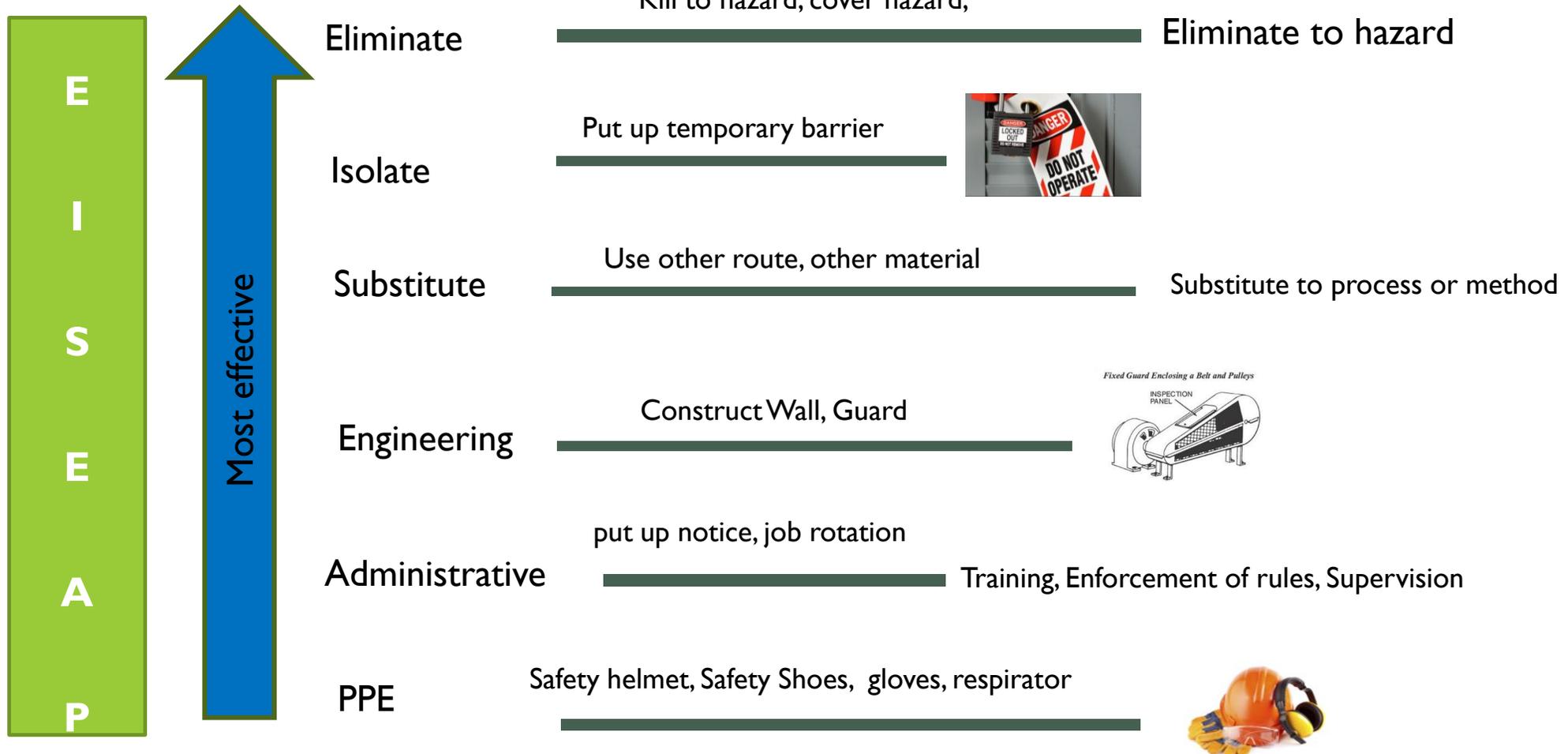
Engineering Control

Administrative Control

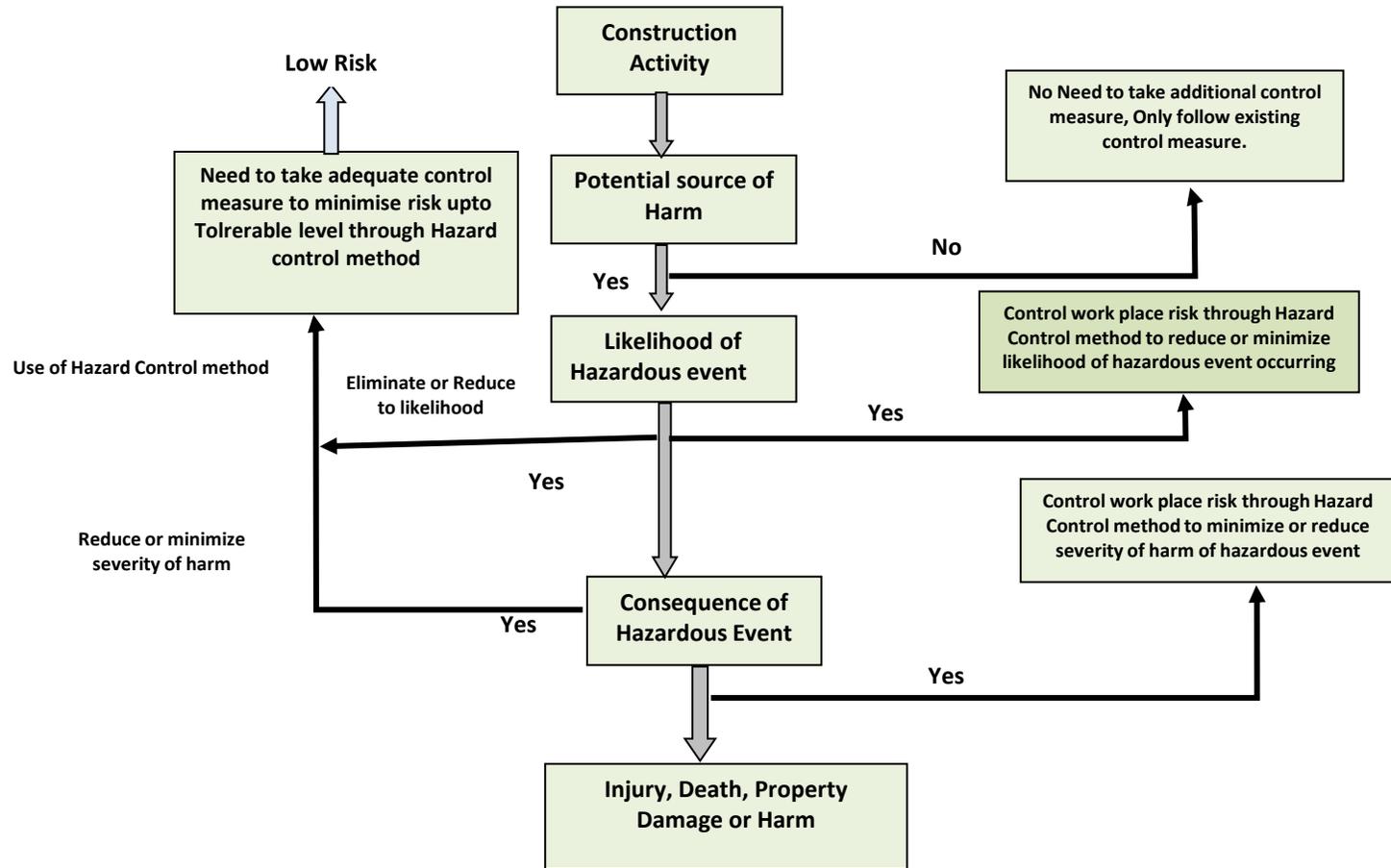
Personnel Protective Equipments



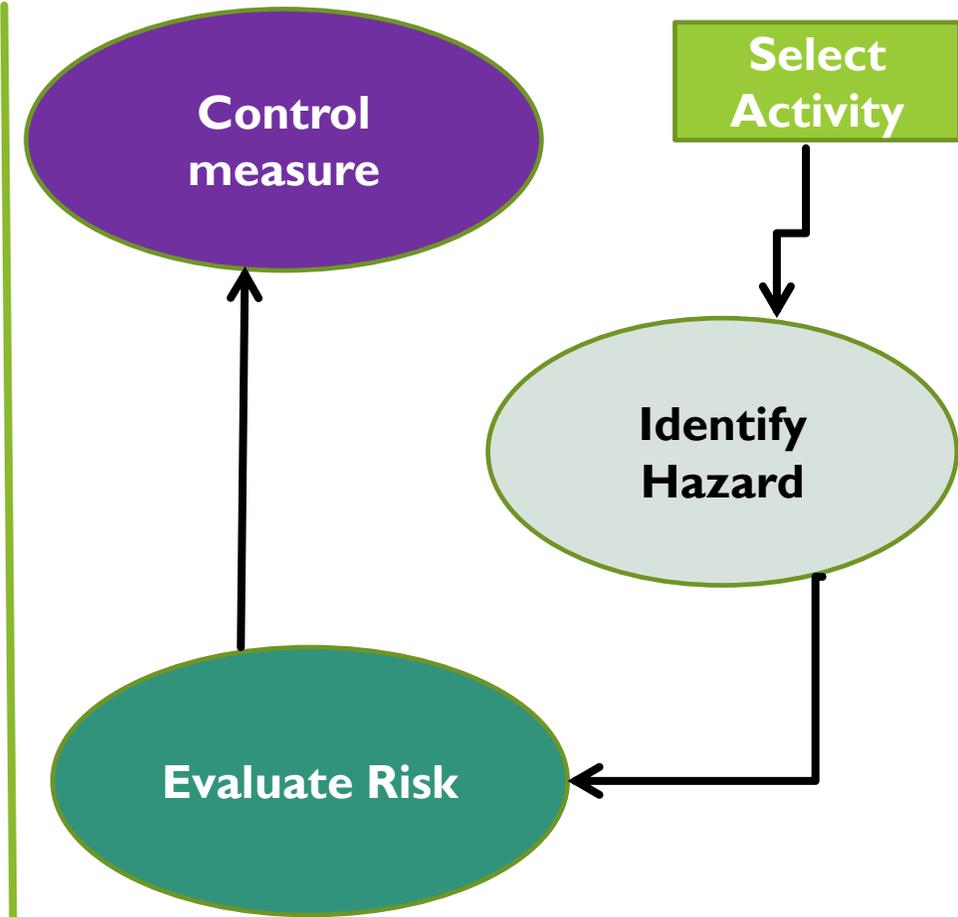
# HAZARD CONTROL METHOD IN CONSTRUCTION INDUSTRIES



# RISK CONTROL METHOD



Risk Control at work place through Hazard Control method



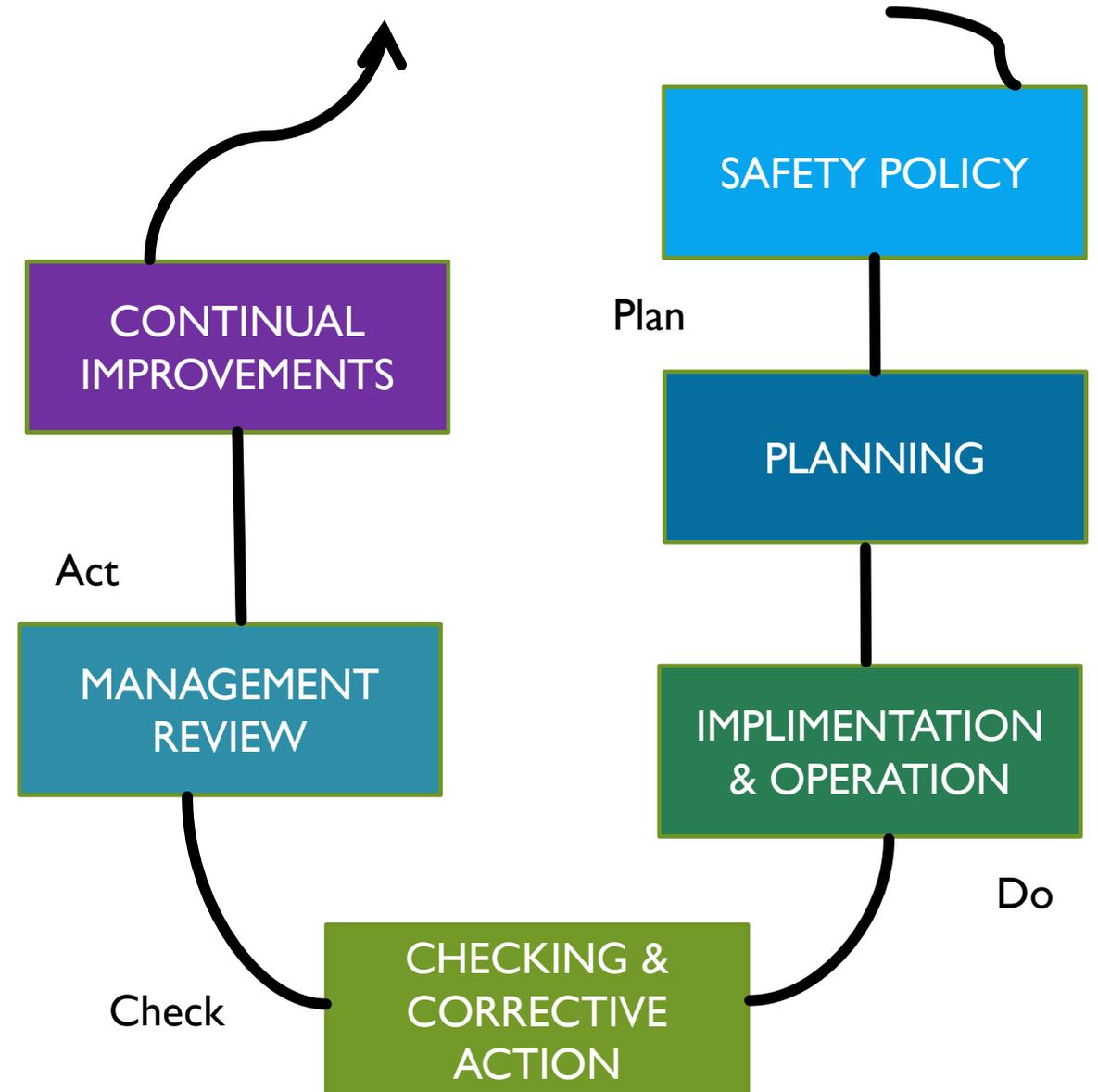
# SAFETY MANAGEMENT SYSTEM

A safety management system (SMS) is effective process used to manage safety elements at the construction industries workplace to create safe healthy work environment.

The SMS is used in construction industries to manage significant safety risk and protect to environment.

An SMS provides a systematic way to continuously identify and monitor hazard and control risk while maintaining assurance that these risk controls are effective

# ELEMENT OF SAFETY MANAGEMENT SYSTEM



# SAFETY POLICY

Written Statement signed by Top Management for getting its intent to achieve safety related objective & Target

**Safety Policy**



## Health, Safety & Environment (HSE) Policy

RNSN SERIATE (P) LIMITED is committed to ensure Safe healthy work environment to protect human being as well as Environment. In Order to achieve Health Safety & environment related objective, Policy is:

- Ensure compliance on based on relevant National, International Rules, Regulation, Norms & Codes
- To main high Safety Standard at workplace, we adopt best Safety Practices & Conduct Safety Program regularly.
- To Plan & effective implementation of Safety Health, Environment management system
- Being new organisation, always seek opportunities and Continual improvements in products, process, Services and Peoples to ensure compliance & standards.

RNSN Seriate (P) Limited takes all necessary steps to achieve zero harm & increase stakeholders satisfaction.

Date: 30/11/2018

  
Director

# PLANNING

## PLANNING INCLUDES:

- Planning for Hazard Identification, Risk

Assessment, Risk control

- Legal & Other Requirements

- Objectives

- Safety Management Program

- Safety Management arrangements

Effective Planning is concerned with prevention through identifying, eliminating and controlling hazards and risk.

# IMPLEMENTATION & OPERATION

## IMPLEMENTATION & OPERATION

### INCLUDES:

- Structure & Responsibility
- Training, Awareness & Competence
- Consultation & Communication
- Documentation
- Document & Data Control
- Operational Control, Emergency Preparedness & Response

# CHECKING & CORRECTIVE ACTION

## CHECKING & CORRECTIVE ACTION INCLUDES

- Performance Measurement & Monitoring
- Accident, Incidents, Non-conformances and corrective and preventive action
- Record & Record Management
- Safety Audit

## MANAGEMENT REVIEW



Top management should review Construction industries Safety Managements system to ensure its continuing suitability, adequacy & effectiveness

## CONTINUAL IMPROVEMENTS



Effective approach to identify gap & seek opportunities to improve SMS in construction industries.

# RISK CONTROL IN CONSTRUCTION INDUSTRIES

- Hazard identification & Risk Assessment
- Identify applicable Safety Rules, Regulation & Codes and ensure its effective compliance
- Effective enforcement of SMS in Construction Industries
- Motivation, Supervision, Reporting & Training
- Emergency Preparedness Plan
- PPE's Compliance
- Work permit system compliance etc.

# ACCIDENT PREVENTION PHILOSOPHY & CONCLUSION

- Safety Management Begins with Incident Management
- All accidents are preventable except natural event & Safety is everyone's responsibility.
- Human & Mechanical Failure are main Cause of Accident.
- To eliminate Potential sources of Harm & Prevent Unsafe Practices help to control work place risk.
- Enforcement of Effective Safety Mgt. System help to control work place risk.
- Good housekeeping always reduce workplace accident.
- Compliance of Safety Rules, regulation & Codes help to mitigate work place risk.
- Positive Safety culture always results construction industries business success.



# QUESTION & ANSWER



**References:**

- ISEI Manual, IS 18001
- Wikipedia, Google, OSHA



**Talk Safety | Walk Safety | Do Safety**

Institution of Safety Engineers (India)

**THANK YOU!**

FOR MORE DETAILS VISIT - [WWW.ISEINDIA.IN](http://WWW.ISEINDIA.IN)

OR MAIL - [INFO@ISEINDIA.IN](mailto:INFO@ISEINDIA.IN)

CALL +91-6266474225, +91-8720831773

