

Pacific Learning Partnership for Environmental and Social Sustainability

Module 25: Occupational Health & Safety for Contractors

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“Safety saves sickness,
suffering and sadness”

— Safety saying, circa 1900s

Many people die and many more are hurt at work annually.....

Globally:

- 2.3 million people die from occupational accidents and diseases (or >6,000 deaths per day)
- 340 million occupational accidents and 160 million victims of work-related illness annually



Source: ILO

This comes at an economic cost...

The ILO estimates that 4% of global GDP is lost due to occupational accidents and diseases

Source: ILO, 2017



a cost to individuals and families...

- Disability
- Need for care
- Loss of income
- Loss of self esteem
- Incomplete schooling or education
- Poverty



and a cost to business

- From worker accidents: e.g., lost time, medical costs, compensation, additional construction costs due to worker lost time and production, etc.
- Associated with regulatory non-compliance: e.g., fines, penalties, construction delays from stop notices, etc.
- From replacement or repair of damaged equipment and machinery due to accidents
- Of insurance (including loss of insurance) and of criminal and civil claims (including legal costs)
- From delays or stopped construction invoices due to OHS contract non-compliance





ESS2 – Labor and Working Conditions

- Promote safety and health at work
- Promote the fair treatment, non-discrimination, and equal opportunity of project workers
- Protect project workers, with particular emphasis on vulnerable workers
- Prevent the use of all forms of forced labor and child labor
- Support the principles of freedom of association and collective bargaining of project workers in a manner consistent with national law
- Provide project workers with accessible means to raise workplace concerns

Instruments

Labor Management Procedures set out the way in which project workers will be managed, in accordance with the requirements of national law and ESS2

Grievance Mechanism for Workers to raise workplace concerns

OHS Plan identifies potential hazards to project workers, provision of protective measures, training, reporting requirements for incidents, emergency response procedures and remedies for adverse impacts



ESS4 – Community Health and Safety

- Anticipate or avoid adverse impacts on the health and safety of project-affected communities during project life-cycle from routine and non-routine circumstances
- Promote quality, safety, and climate change considerations in infrastructure design and construction, including dams
- Avoid or minimize community exposure to project-related traffic and road safety risks, diseases and hazardous materials
 - Have in place effective measures to address emergency events
- Ensure that safeguarding of personnel and property is carried out in a manner that avoids or minimizes risks to the project-affected communities

Instruments

Construction traffic management plan identifies potential traffic and road safety risks to workers, affected communities and road users and provides measures to address them

Infection Prevention and Control (IPC) Plan sets out measures to reduce community exposure to communicable diseases

Risk Hazard Assessment (RHA) and Emergency Response Plan (ERP) for projects having the potential to generate emergency events

Dam safety assessment for existing dams

Construction supervision and quality assurance plan, instrumentation plan, operation and maintenance plan, ERP for new dams

Definitions

Hazard

A situation or thing that has the potential to harm a person.

Risk

The possibility that harm (death, injury or illness) might occur when exposed to a hazard.

Risk Control

Taking action to eliminate health and safety risks so far as is reasonably practicable, and if that is not possible, minimising the risks so far as is reasonably practicable. Eliminating a hazard will also eliminate any risks associated with that hazard.

Definitions

Administrative control

A method of work, a process or a procedure designed to minimise risk, but does not include an engineering control, or the use of personal protective equipment.

Hierarchy of Control

The hierarchy of risk control shows ways of controlling risks, ranked from the highest level of protection and reliability to the lowest.



Design

- Assess risks (implementation, operations and closure)
- Design mitigation measures
- Develop instruments
- Include H&S requirements in bidding process
- Capacity building for PMU and local contractors



Implementation

- Ongoing risk assessment
- Instrument and mitigation measure implementation
- Contractor management plans
- Monitoring & reporting
- Instrument review and update
- Emergency preparedness
- Incident management
- Capacity building for PMU and local contractors



Operations

- Ongoing risk assessment
- Instrument and mitigation measure implementation
- Management plan implementation (e.g. chemical)
- Monitoring & reporting
- Instrument review and update
- Emergency preparedness
- Incident management
- Capacity building for PMU and local contractors



Closure

- Leave safe, stable, non-polluting and self sustaining
- E.g. knock down slopes and fill dams
- Inspections, reports
- Regulator sign-off
- Consider ongoing community safety

Hazard Identification

Does a particular situation, item, thing, etc. have the potential to cause harm?

How to identify hazards:

- Workshop
- Workplace inspections
- Employee & committee engagement
- Incident investigation & analysis
- Equipment manuals and MSDSs

Hazard Identification: Exercise

What hazards do you see?



Example Hazards: High Hazard Activities

Could result in death or serious injury



Example Hazards: Hazards to the Community



Risk Assessment

Risk = Consequence * Likelihood

Risk Matrix

Likelihood		Very Likely	Likely	Unlikely	Highly Unlikely
Consequences	Fatality	High	High	High	Medium
	Major Injuries	High	High	Medium	Medium
	Minor Injuries	High	Medium	Medium	Low
	Negligible Injuries	Medium	Medium	Low	Low

Risk Assessment: Example

Scenario: pharmacy warehouse (operations)

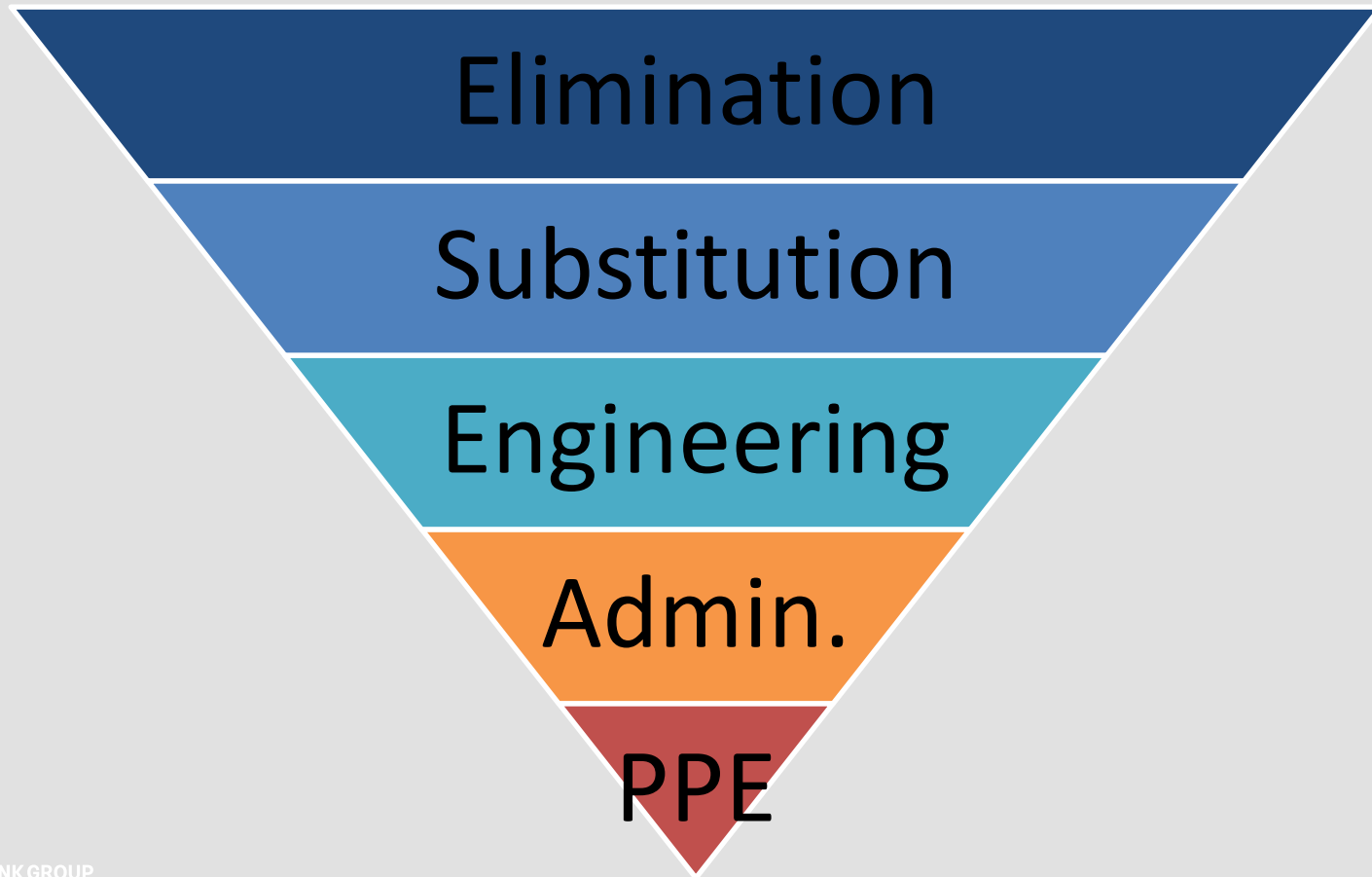
Hazard	Likelihood	Consequence	Risk Rating
Vehicle/pedestrian collision causes injury or fatality	Unlikely	Fatality	High
Manual handling leads to sprains or strains	Likely	Minor injury	Medium
Minor cuts from handling of boxes	Unlikely	Negligible Injury	Low

Risk Mitigation

The objective of risk mitigation is to reduce the probability and/or consequences of a risk event to an acceptable threshold and define appropriate response.



Risk Mitigation: Hierarchy of Controls



Risk Mitigation: Hierarchy of Controls

Elimination	Physically remove the hazard <i>E.g. filling in a dam or decommissioning an UG tank</i>
Substitution	Replace the hazard <i>E.g. use of a less toxic chemical</i>
Engineering	Isolate people from the hazard <i>E.g. mechanical lifting or conveyor guards</i>
Administrative	Change the way that people work <i>E.g. traffic management plan</i>
PPE	Protect the worker with PPE <i>E.g. hard hat, safety boots, face mask</i>

Risk Mitigation: Exercise

What controls would you implement?



Risk Assessment: Key Points

- Engage employees at all levels
- Engage community members
- Risk assessment should inform the development of management plans and procedures
- Consider the Hierarchy of Controls – PPE & admin. are least effective!

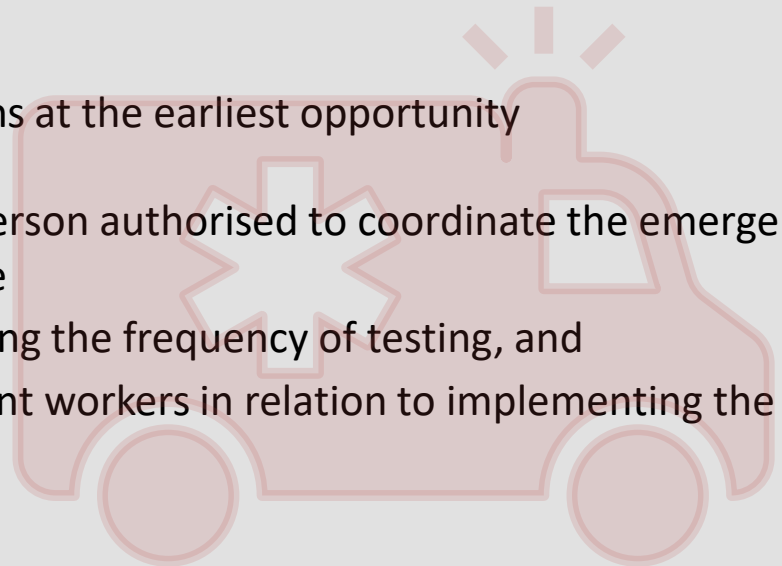


Emergency Response & Preparedness

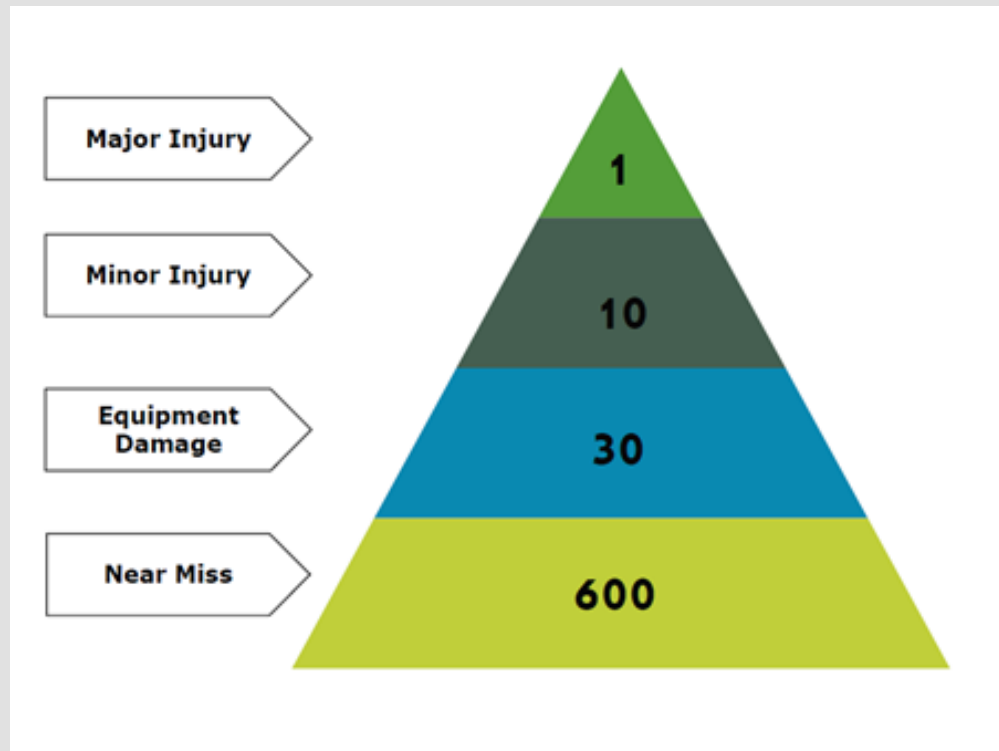
An emergency plan is a written plan that sets out requirements and instructions for workers and others in the case of an emergency (e.g. fire, explosion, medical emergency, rescues, incidents with hazardous chemicals, bomb threats, armed confrontations and natural disasters).

An emergency plan must consider both **workers** and **the community** and include the following:

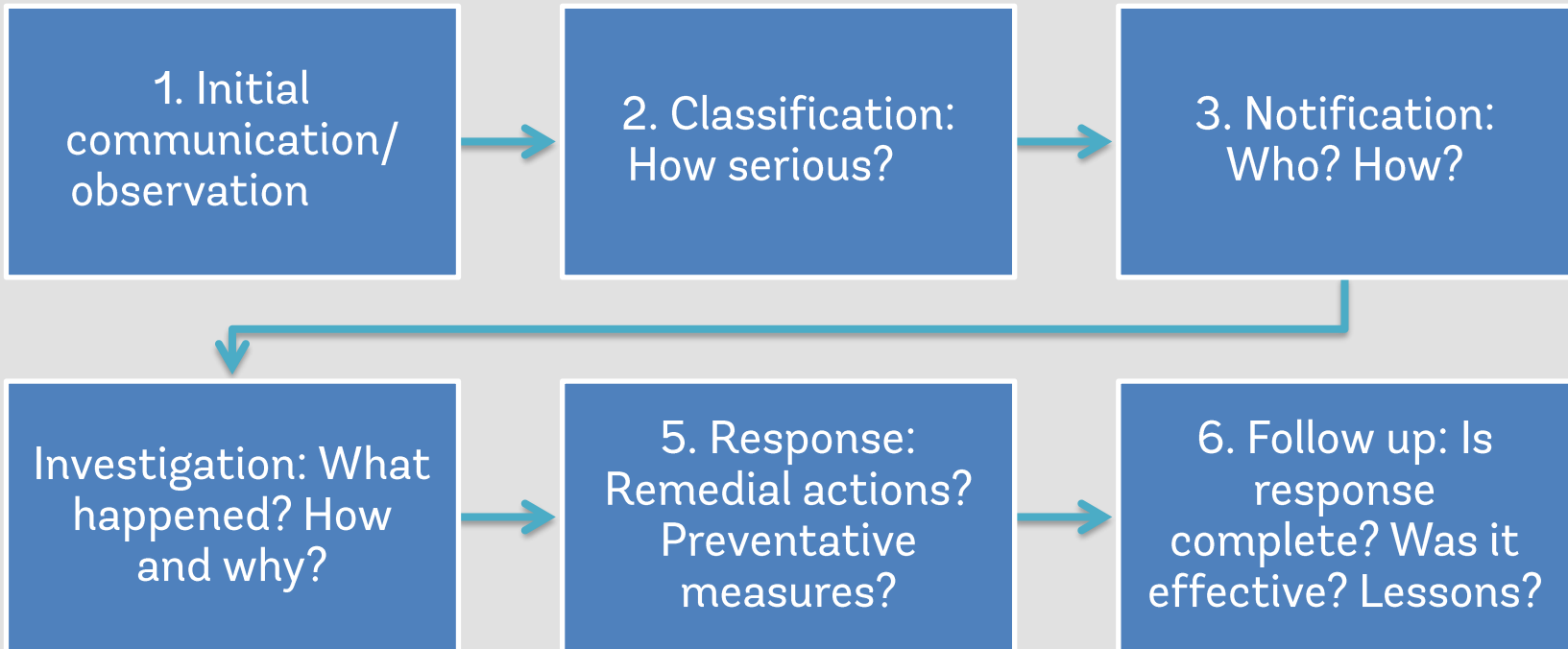
- emergency procedures, including:
 - an effective response to an emergency
 - evacuation procedures
 - notifying emergency service organisations at the earliest opportunity
 - medical treatment and assistance, and
 - effective communication between the person authorised to coordinate the emergency response and all people at the workplace
- testing of the emergency procedures—including the frequency of testing, and
- information, training and instruction to relevant workers in relation to implementing the emergency procedures.



Incident Risk Ratio



Incident Response



Incident Response: Classification

Indicative

- Relatively minor and small scale incident that negatively impacts a small area or number of people
- Does not result in serious or irreparable harm
- Failure to implement agreed E&S measures with limited immediate impact

Serious

- Incident caused, or may cause, significant harm to the environment, workers, communities or natural or cultural resources
- Is complex or costly to reverse
- May result in lasting damage or injury
- Requires urgent response
- Could pose reputational risk to Govt or Bank
- Failure to implement E&S measures with serious impacts or repeated non-compliance

Severe

- Any fatality
- Caused, or may cause great harm to environment, workers, communities, or natural or cultural resources
- May result in high levels of lasting damage or injury
- Requires immediate response
- Poses a significant reputational risk to Govt or Bank
- Failure to remedy serious non-compliance with E&S measures

Serious & Severe incidents require a root cause analysis

Incident Response: Scenarios

Runoff from the building site polluted a stream and there were dead fish in the stream for more than a week

There was a car accident involving the Project Management Unit's vehicle and one person died

Trucks delivering materials to the construction site are generating a lot of dust along the main road

Training

- Training is required to allow workers to identify workplace hazards and to understand how to manage them.
- Types of safety training:
 - Formal qualifications for high hazard activities such as working at heights, confined spaces, heavy vehicle operation etc.
 - Formal qualification for trades e.g. electrical and mechanical
 - Training on different standard operating procedures (SOPS) e.g. traffic management
 - Inductions
 - Information sessions such as toolbox talks and ‘lessons learnt’ from incident investigation.
 - Scenarios and drills – e.g. emergency response



Assurance & Monitoring

Q How do you ensure that health and safety controls and procedures are being implemented?

A **Monitoring and assurance activities.**

Examples of monitoring:

- Formal audits
- Site inspections
- Workplace interactions
- Worker and/or union inspections
- Incident reporting & hazard ID

Next Steps:

- Address immediate concerns
- Analyze findings e.g. incidents, near misses, hazard ID
- Use findings to inform your response
- Continue monitoring

Lagging and Leading Indicators

OSHA recordable injuries

OSHA citations

OSHA recordable-case rate

DART-case rate

Fatality rate

Worker compensation claims

Experience modification rate



Lagging

Leading

Near misses

Behavioral observations

Training records

Department safety meetings

Employee-perception surveys

Trainee scores on post-training quizzes

Preventive-maintenance programs



Lagging and Leading Indicators

Lagging indicators allow us to learn from our mistakes

Leading indicators allow us to make improvements before an accident takes place

If we aren't learning from lagging indicators, we aren't learning from experience

- People get hurt for nothing
- We aren't prioritising the safety of our people

Questions?





Learn more about the World Bank Group's Environmental & Social Framework:

<https://www.worldbank.org/en/projects-operations/environmental-and-social-framework>