

**RISK
ASSESSMENT**



What is a Risk Assessment?

A risk assessment is an information gathering exercise about:

Hazards, Risks and Controls

Requires information on:

- Substances.
- Work processes (location & duration).
- Assessments of the levels of exposure.
- Evaluations of control measures.

The Legal Background



WORK HEALTH AND SAFETY ACT 2011 - SECT 19 Primary Duty of Care

- A person conducting a business or undertaking must ensure, so far as is reasonably practicable, the health and safety of:
 - workers engaged, or caused to be engaged by the person, and
 - workers whose activities in carrying out work are influenced or directed by the person, while the workers are at work in the business or undertaking.
- A person conducting a business or undertaking must ensure, so far as is reasonably practicable, that the health and safety of other persons is not put at risk from work carried out as part of the conduct of the business or undertaking.

- Without limiting subsections (1) and (2), a person conducting a business or undertaking must ensure, so far as is reasonably practicable:
 - the provision and maintenance of a work environment without risks to health and safety, and
 - the provision and maintenance of safe plant and structures, and
 - the provision and maintenance of safe systems of work, and
 - the safe use, handling, and storage of plant, structures and substances, and
 - the provision of adequate facilities for the welfare at work of workers in carrying out work for the business or undertaking, including ensuring access to those facilities, and
 - the provision of any information, training, instruction or supervision that is necessary to protect all persons from risks to their health and safety arising from work carried out as part of the conduct of the business or undertaking, and
 - that the health of workers and the conditions at the workplace are monitored for the purpose of preventing illness or injury of workers arising from the conduct of the business or undertaking.

WORK HEALTH AND SAFETY ACT 2011 - SECT 19

Penalties



Category 1 Reckless Conduct

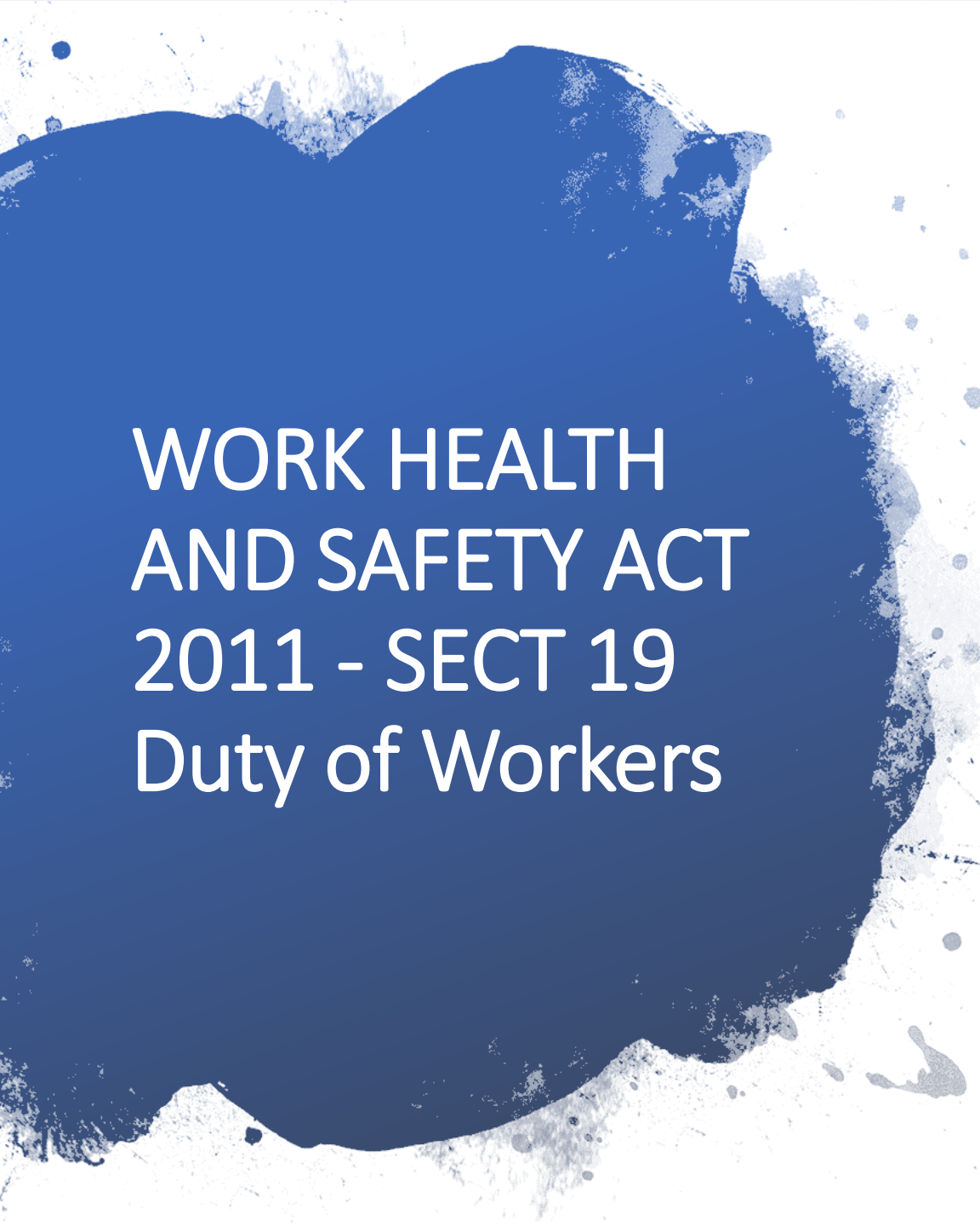
- Corporations: \$3m
- Individuals as a PCBU or **Officers of a PCBU: \$600k / 5 years jail**
- Other Individuals : \$300k / 5 years jail

Category 2 Breach High Risk

- Corporations: \$1.5m
- Individuals as a PCBU or **Officers of a PCBU: \$300k**
- Other Individuals : \$150k

Category 3 Duty Breach

- Corporations: \$500k
- Individuals as a PCBU or **Officers of a PCBU: \$100k**
- Other Individuals : \$50k



WORK HEALTH AND SAFETY ACT 2011 - SECT 19 Duty of Workers

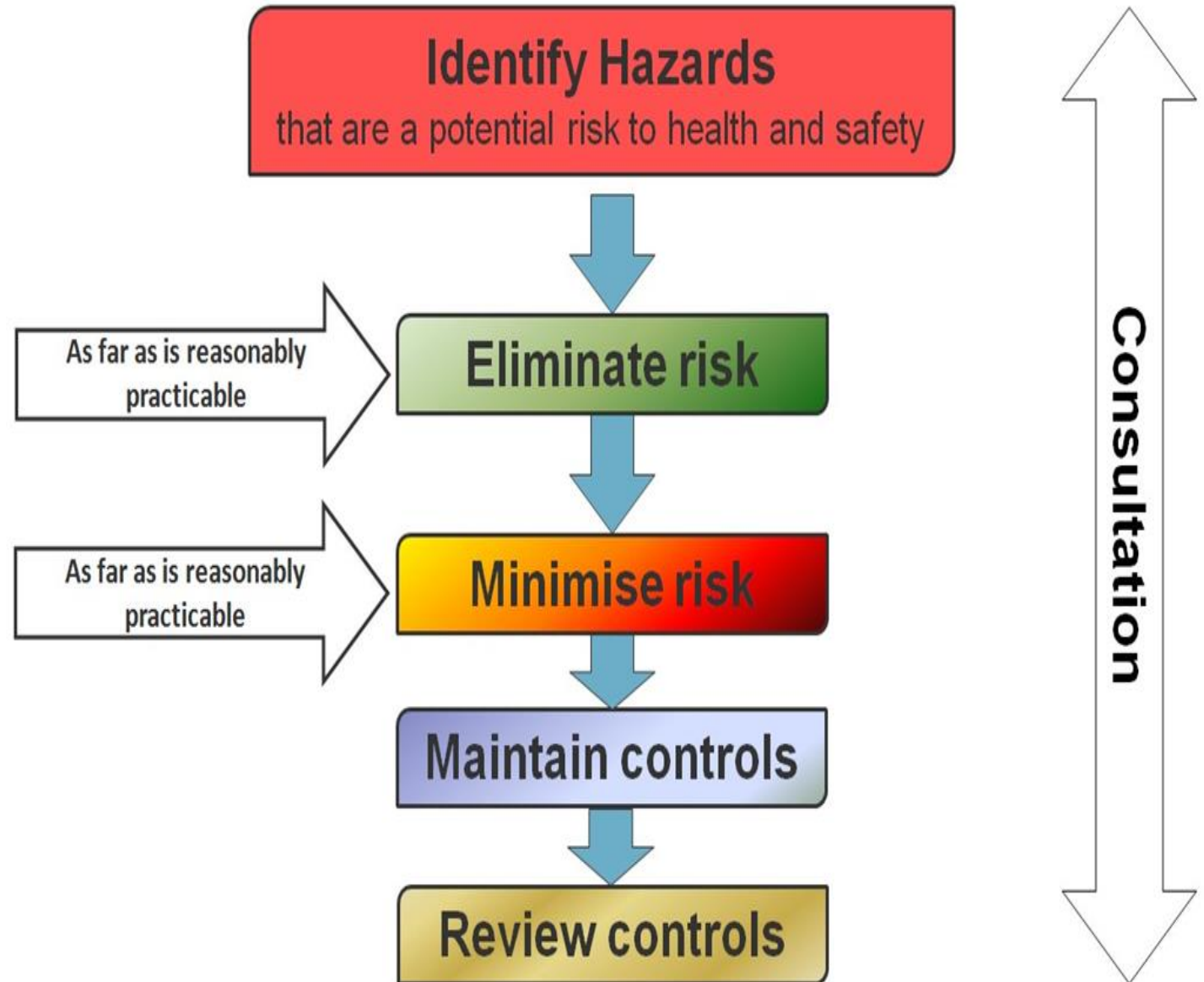
While at work, a worker must:

- take reasonable care for his or her own health and safety, and
- take reasonable care that his or her acts or omissions do not adversely affect the health and safety of other persons, and
- comply, so far as the worker is reasonably able, with any reasonable instruction that is given by the person conducting the business or undertaking to allow the person to comply with this Act, and
- co-operate with any reasonable policy or procedure of the person conducting the business or undertaking relating to health or safety at the workplace that has been notified to workers.

The Risk Management Process



The Risk Management Process



An aerial photograph of a mining site. A large yellow dump truck is driving on a wide, reddish-brown dirt road, kicking up a massive cloud of dust that fills the upper half of the frame. In the lower part of the image, two yellow mining trailers are parked on a similar dirt surface. The surrounding landscape is arid and rocky, with some sparse green vegetation. A black circular graphic with a double border is overlaid on the left side of the image.

Workplace Hazards

Step 1 – Identifying Workplace Hazards

The most important step in any Risk Assessment - **hazards can only be controlled if** they are identified

Identifying hazards in the workplace involves finding things and situations that could potentially cause harm to people.

Hazards generally arise from the following aspects of work and their interaction:

- physical work environment
- equipment, materials and substances used
- work tasks and how they are performed
- work design and management

What is a Workplace Hazard

- A **hazard** is a situation that poses a level of threat to life, health, property, or environment. Most hazards are dormant or potential, with only a theoretical risk of harm.
- Hazard and possibility interact together to create risk



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What is a Workplace Hazard

1. **Physical** hazards are conditions or situations that can cause the body physical harm or intense stress. Physical hazards can be both natural and human made elements.
2. **Chemical** hazards are substances that can cause harm or damage to the body, property or the environment. Chemical hazards can be both natural or human made origin.
3. **Biological** hazards are biological agents that can cause harm to the human body. These some biological agents can be viruses, parasite, bacteria, food, fungi, and foreign toxin.
4. **Psychological** hazards are created during work related stress or a stressful environment.
5. **Radiation** hazards are those which cause harm or damage to the human body by affecting the cell directly.



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Types of Hazards

Hazard	Potential harm
Manual tasks	Overexertion or repetitive movement can cause muscular strain
Gravity	Falling objects, falls, slips and trips of people can cause fractures, bruises, lacerations, dislocations, concussion, permanent injuries or death
Electricity	Potential ignition source. Exposure to live electrical wires can cause shock, burns or death from electrocution
Machinery and equipment	Being hit by moving vehicles, or being caught by moving parts of machinery can cause fractures, bruises, lacerations, dislocations, permanent injuries or death
Hazardous chemicals	Chemicals (such as acids, hydrocarbons, heavy metals) and dusts (such as asbestos and silica) can cause respiratory illnesses, cancers or dermatitis
Extreme temperatures	Heat can cause burns, heat stroke or fatigue Cold can cause hypothermia or frost bite
Noise	Exposure to loud noise can cause permanent hearing damage
Radiation	Ultra violet, welding arc flashes, micro waves and lasers can cause burns, cancer or blindness
Biological	Micro-organisms can cause hepatitis, legionnaires' disease, Q fever, HIV/AIDS or allergies
Psychosocial hazards	Effects of work-related stress, bullying, violence and work-related fatigue

Check your workplace for hazards



How to Find
Workplace
Hazards

Check your workplace for hazards



Assessing the Risk

- **Risk assessment** is the determination of quantitative or qualitative value of risk related to a concrete situation and a recognised hazard.
- **Quantitative risk assessment** requires calculations of two components of risk (R):, the magnitude of the potential loss (L), and the probability (p) that the loss will occur.
- **Acceptable risk** is a risk that is understood and tolerated usually because the cost or difficulty of implementing an effective countermeasure for the associated vulnerability exceeds the expectation of loss



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Frequency

- 5 - Almost Certain-Can be expected to occur in most circumstances.
- 4 - Likely- (Quite Probable) Could occur in most circumstances.
- 3 - Possible (Unlikely but possible)-Could happen in unusual circumstances.
- 2 - Unlikely (Remotely possible) - Would only occur where multiple system or control failures occurred.
- 1- Negligible (Conceivable but unlikely) - Little or no chance of occurrence would require a combination of unusual factors and system and behavioral failures.



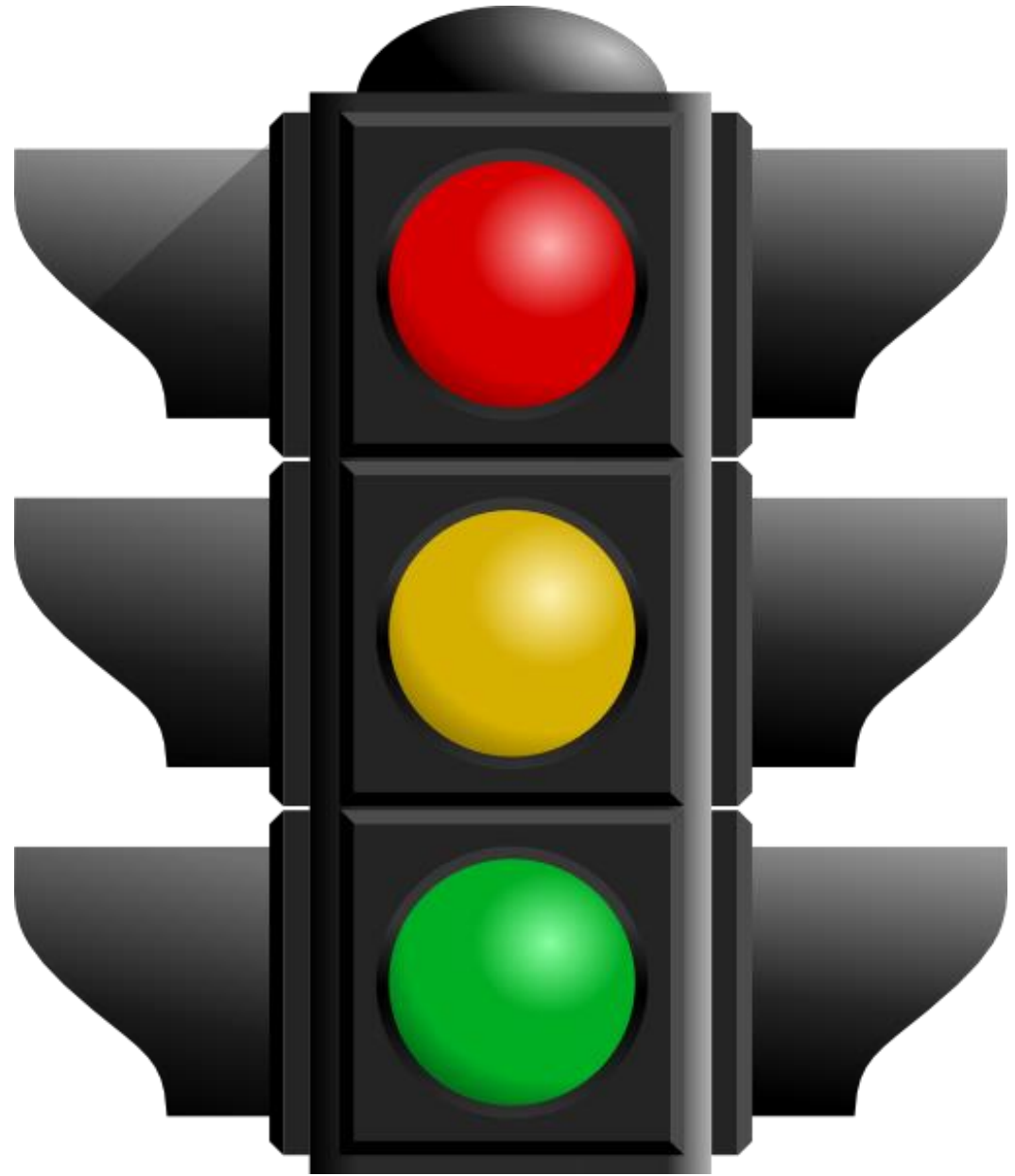
Severity

- 5 – Catastrophic - Death, environmental impact on or off-site with irreparable effect, huge financial loss from damage or interruption to business. (H) Life-threatening or disabling disease.
- 4 – Major - Life-threatening incident resulting in extensive injuries or major health effects, on or off-site environmental impact with detrimental effects, major loss from damage or interruption to business. (H) Irreversible health effect of concern.
- 3 – Moderate - Injury requires medical treatment, environmental on-site or off-site release able to be contained and rehabilitated, and medium financial loss from damage or business interruption. (H) Severe, reversible health effects of concern.
- 2 – Minor - Minor first aid injury, minimum environmental impact and low financial loss from damage or business interruption. (H) Reversible health effects of concern.
- 1 – Insignificant - No injuries, negligible environmental impact or financial loss from damage or business interruption. (H) Reversible health effects of little concern, or no adverse health effects.

The Risks Matrix

Probability	Insignificant	Minor	Moderate	Major	Catastrpohic
Negligible	Low	Low	Moderate	High	High
Unlikely	Low	Low	Moderate	High	Extreme
Possible	Low	Moderate	High	Extreme	Extreme
Likely	Moderate	High	High	Extreme	Extreme
Almost Certain	High	High	Extreme	Extreme	Extreme

Step 3 – Determining Control Measures



Control Measures

HIERARCHY OF CONTROLS

Start at the top and work down

Most effective
control



Least effective
control

Elimination e.g. Discontinue use of product, equipment, cease work process

Substitution e.g. Replace with a similar item that does the same job but with a lower hazard level

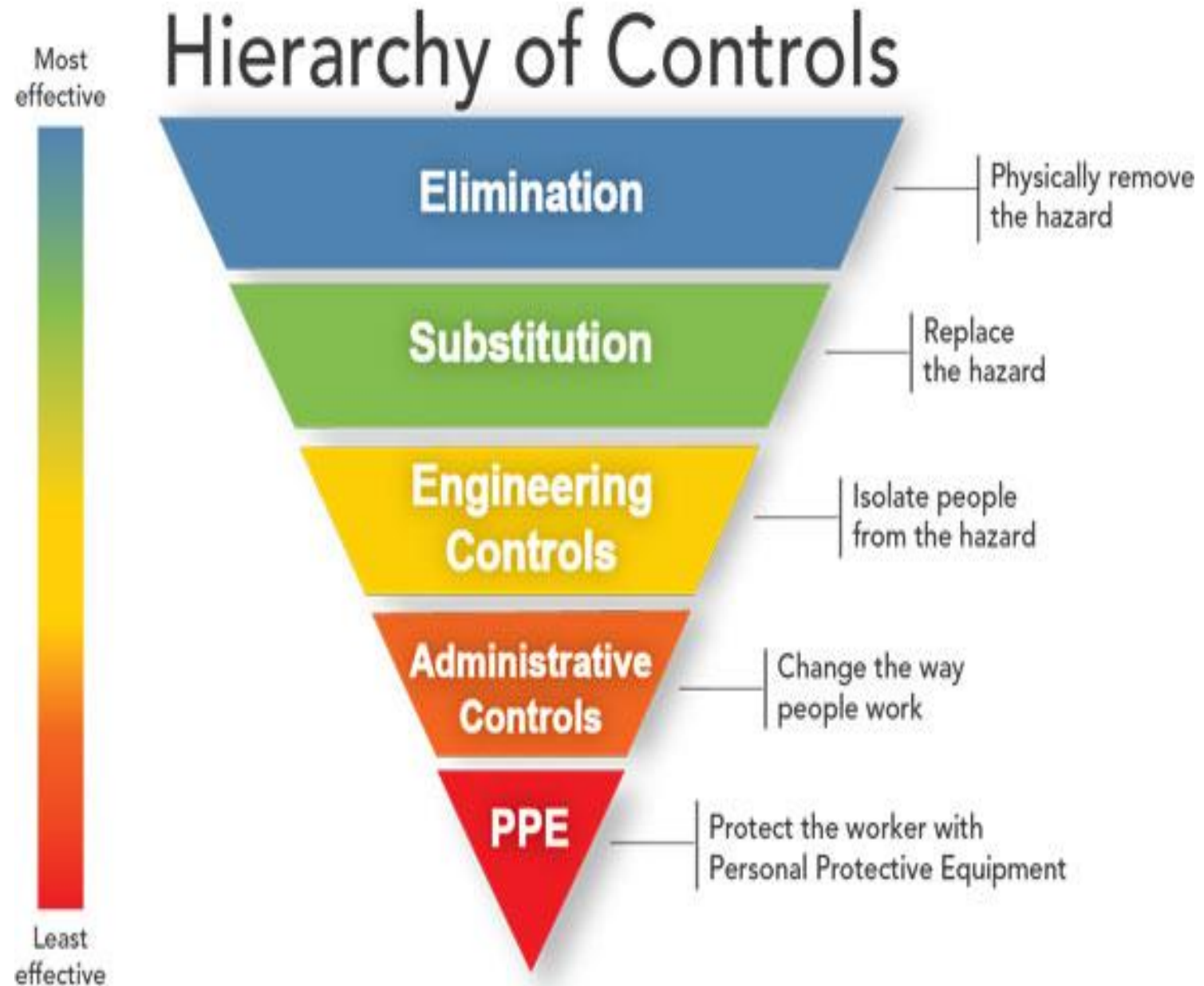
Isolation e.g. Put a barrier between the person and the hazard

Engineering controls e.g. Change the process, equipment or tools so the risk is reduced

Administration controls e.g. Guidelines, procedures, rosters, training etc. to minimise the risk

Personal protective equipment e.g. Equipment worn to provide a temporary barrier

Control Measures



Step 4 – Reviewing the Control Measures

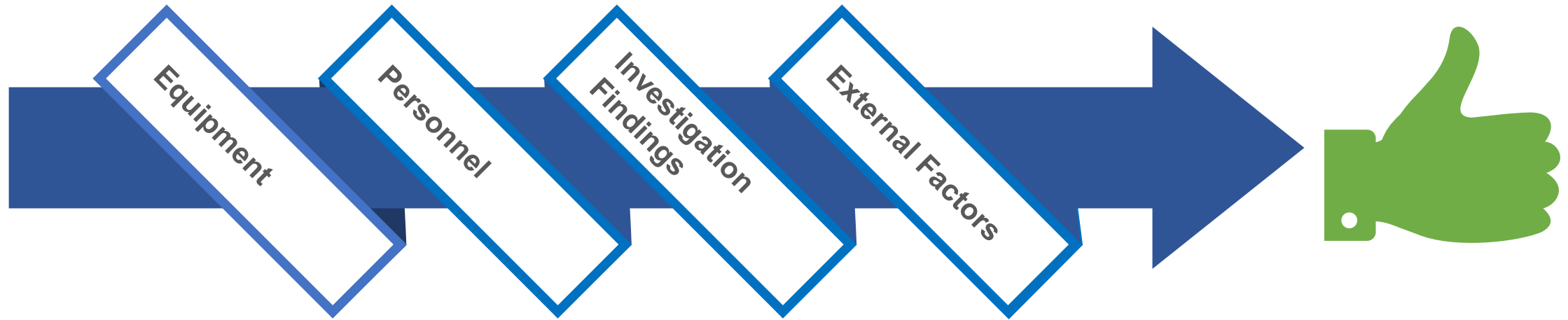


Risk Assessment Review

Organisations should:

1. **Review** their **risk assessments** and **risk** management practices **annually**, or:
2. Whenever there to any significant changes to workplace processes or design. Whenever new machinery, substances or procedures are introduced. Whenever there is an injury or incident as a result of **hazard** exposure.

Risk Assessment Review



Equipment

Changes in the equipment used or in the way that existing equipment is used or any other changes to the process.

Personnel


Changes in the people who carry out the process – more, less, different.

Investigation Findings

Changes that may result from Incident Investigations or other corrective actions. Changes that may result from employee consultation.

External Factors

Changes in legislation or environment that may affect the way in which work is performed.



**Please ensure that your
training session is
finalised by completing
the questionnaire in the
link below**



ISO14001
CERTIFICATION