KPMG
cutting through complexity

RISK MANAGEMENT

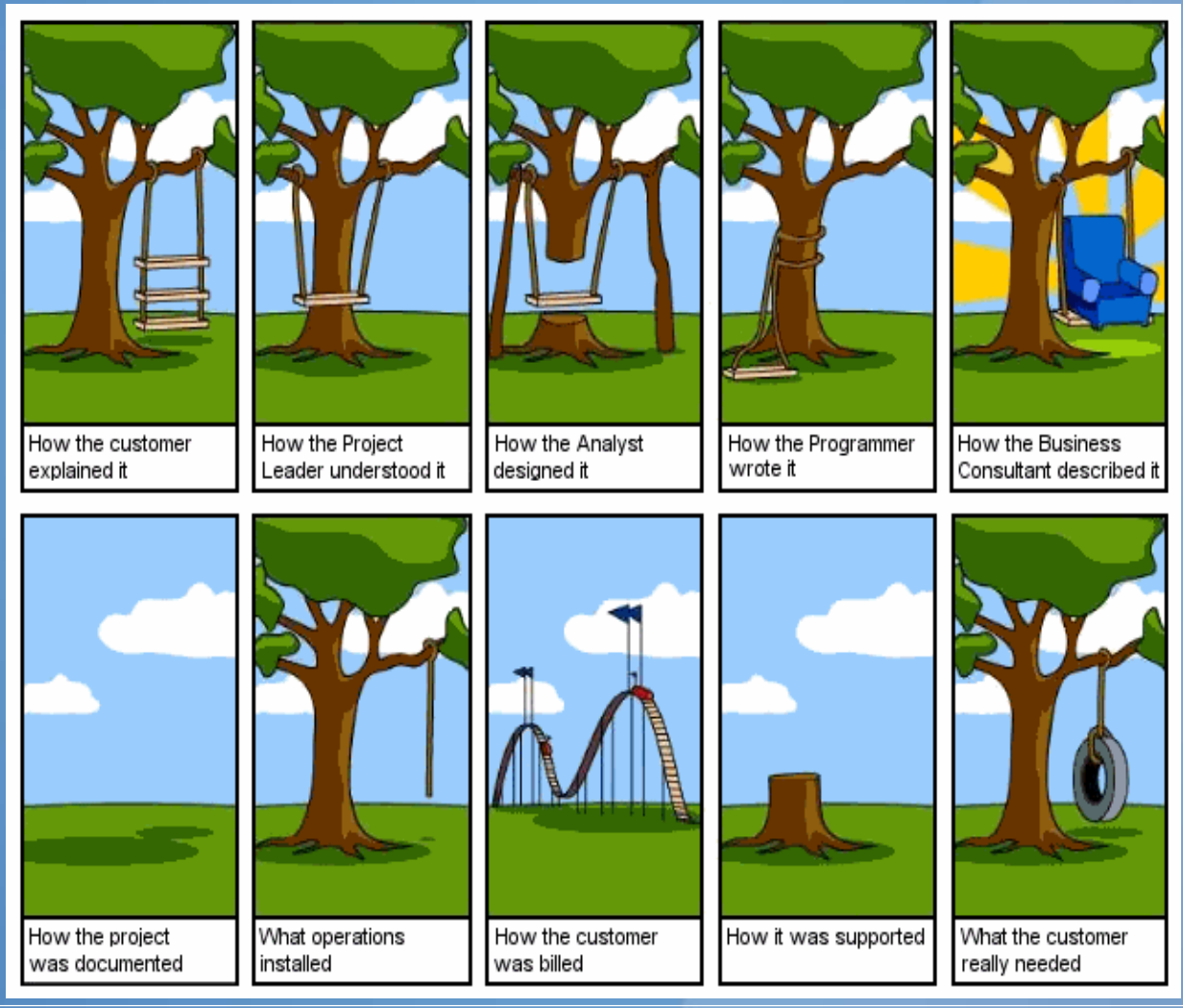
Making the transition from Hazard Management to Risk Management

WORKSHOP OBJECTIVES

- What is a ‘Risk’ and how is it different from hazard?
- How does ‘risk’ relate to OHS?
- Benefits of using a risk-based approach
- Pitfalls in using a risk-based approach (for H&S), and how to avoid them
- Break-out: practical workshop – how to turn a hazard register into a risk register?
- Feedback – key learning from the workshop

RISK MANAGEMENT

Active decision-making to prevent things from going wrong…



OBJECTIVES OF A RISK MANAGEMENT

Effective management of risks through:

- identifying which risks are in most need of reduction, and the options for **eliminating** the risk (eliminate)
- identifying which risks need ongoing management and evaluating what that entails (minimise)

Risk management plays a critical role in OHS management systems - **BUT it's only a component – not the system itself**

BASIC TERMS – HAZARD AND EXPOSURE

Hazard – something that is an actual or potential cause or source of harm

In NZ hazard management has been based purely on seriousness of the injury – serious harm = significant hazard

Exposure - exposure to a hazard is the potential source/cause of harm

Can alter the degree of exposure but not the hazard itself

BASIC TERMS – RISK

Risk – the probability and magnitude of harmful consequences arising from a hazard.

Risk is based on seriousness (consequence) and likelihood – focus on events that may occur.

Risk can be expressed in values from zero (no possible harm) to one (certainty that harm will occur).

Risk Matrix

Likelihood	Negligible	Minor	Moderate	Major	Severe
Almost Certain	Medium	High	High	Very High	Very High
Likely	Medium	Medium	High	Very High	Very High
Possible	Low	Medium	High	High	Very High
Unlikely	Low	Medium	Medium	High	High
Rare	Low	Low	Medium	Medium	High

Consequence

BASIC TERMS –CONSEQUENCE AND LIKELIHOOD

Consequence is the most probable result from exposure to a hazard – is the level of harm that could occur

Likelihood is the probability that the accident sequence will follow to completion

Human health effects, risk is the probability (or likelihood) of dying or developing a disease or injury as a result of exposure to a hazard.

For example, a one in a million lifetime risk of developing cancer.

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Consequence

WHY MOVE TO RISK ASSESSMENT?

Benefits of Risk Assessment:

- Fewer unexpected events
- Allows for a structured, systematic, consistent approach
- Supports decision-making and options analysis
- Improved planning – safety at the design stage
  - Earlier identification of opportunities
- Better able to prioritise controls
- Enhanced accountability and governance
- Also allows for worker communication and consultation
  - This has been missing in the past

FIRST: SET A SAFETY STANDARD / RISK APPETITE

What is an acceptable risk standard for OHS performance?

Standards are an essential prerequisite for control

- They enable you to discuss the acceptability of control measures

Concept of tolerable risk and minimum acceptable risk

Tolerable risk – level of risk that workers and the general public would find acceptable under most circumstances

KEY FACTORS INFLUENCING OHS STANDARDS:

Your perception of risk is changed depending upon:

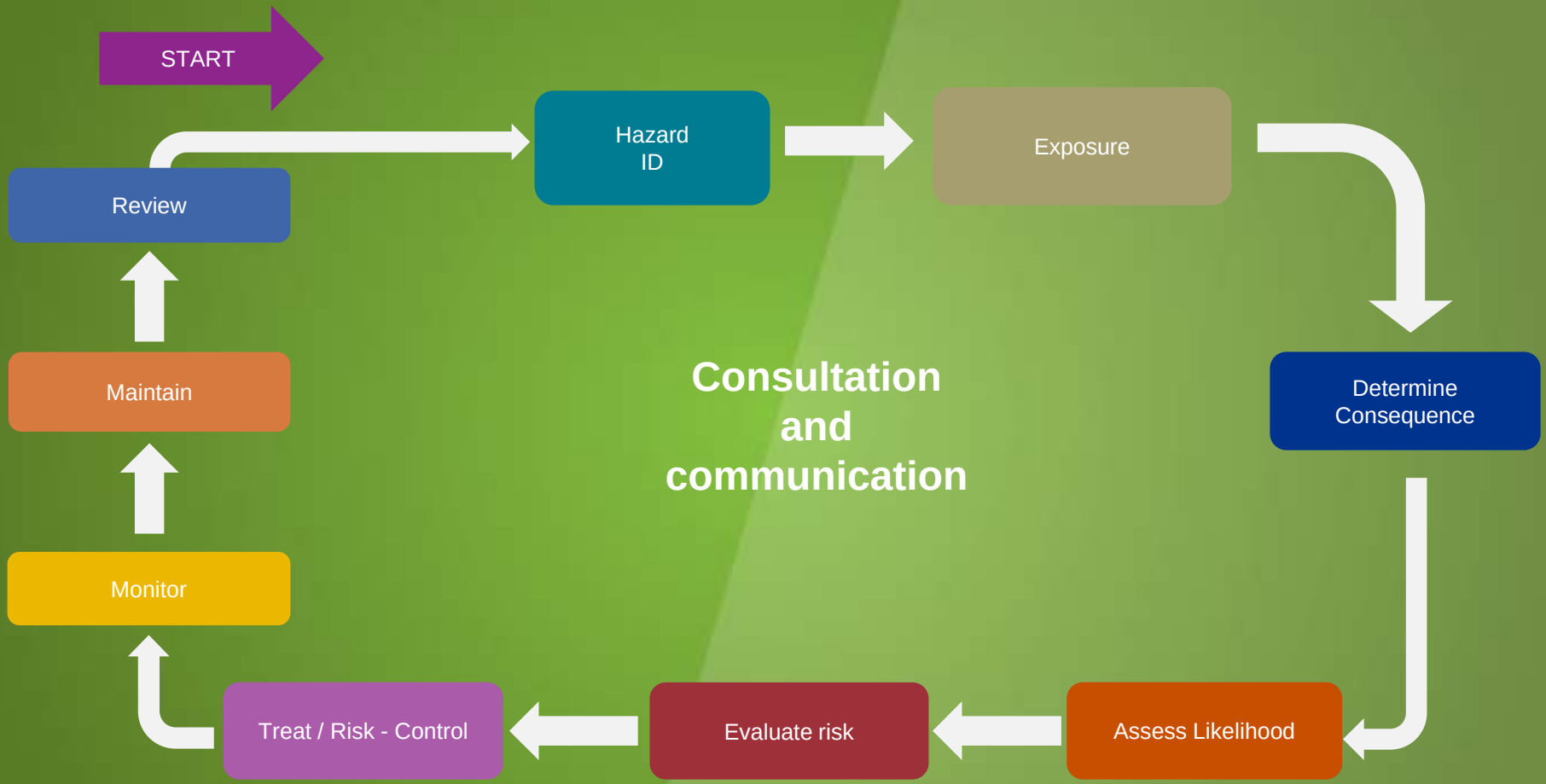
- Incident size
- Degree of pain and suffering
- Familiarity
- Observability
- Delay in impact
- Fairness or equity

Your corporate risk registers may have already defined your risk appetite - check if this is appropriate to use for OHS Risks

RISK APPETITE

Workplace Injury and/or Occupational Illness			LIKELIHOOD				
			Almost Certain	Likely	Possible	Unlikely	Rare
			Is expected to occur in most circumstances.	**Will** probably occur in most circumstances.	**Might** occur in most circumstances.	**Could** occur in some circumstances.	**May** occur only in exceptional circumstances.
CONSEQUENCE (Realistic Potential)	**Catastrophic** Death or serious injury / illness to one or more people causing permanent disability, including irreversible health damage.	Significant Hazard	Very High (25)	Very High (24)	Very High (22)	Very High (20)	Very High (19)
	Major Injury / Illness causing permanent partial or temporary severe disability including serious health damage and/or needing hospitalisation.		Very High (23)	Very High (21)	Very High (18)	High (14)	High (12)
	Moderate Injury / Illness causing temporary disability including reversible health effects. May need medical treatment and/or alternate work duties or may result in one or more work days lost.		High (17)	High (16)	High (13)	Medium (9)	Medium (6)
	Minor Superficial injury / illness that may need First Aid and/or medical assessment.	Potential Significant Hazard	High (15)	High (11)	Medium (8)	Low (5)	Low (3)
	Insignificant Slight Pain and/or Discomfort.		Medium (10)	Medium (7)	Low (4)	Low (2)	Low (1)

RISK MANAGEMENT OVERVIEW



QUESTIONS TO DETERMINE LIKELIHOOD

- How often are people exposed to the hazard?
- How long might people be exposed to the hazard?
- How effective are current controls in reducing risk?
- Are hazards more likely to cause harm because of the working environment?
- Could any changes in your organisation increase the likelihood?
- Could the way people act and behave affect the likelihood of a hazard causing harm?
- Do the differences between individuals in the workplace make it more likely for harm to occur?

EXAMPLE - LIKELIHOOD

Level	Descriptor	Description
A	ALMOST CERTAIN	• There is a 95% or more chance of occurrence • The event/hazard is expected to occur in most circumstances (monthly or more often) • There is a history of frequent occurrences
B	LIKELY	• There is a 65-95% chance of occurrence • There is a strong possibility that the event/hazard will occur • There is a strong possibility it may occur at some time within a period of less than every 4 years
C	POSSIBLE	• There is a 35-65% chance of occurrence • The event/hazard might occur at some stage • The event might occur at some time within a period of less than every 10 years
D	UNLIKELY	• There is a 5-35% chance of occurrence • Not expected, but there is a slight chance the event/hazard may occur at some stage • Typically a once in working career event (1 in 33 years)
E	RARE	• There is less than 5% chance of occurrence • Highly unlikely

CONSEQUENCE AND LIKELIHOOD: MISCONCEPTIONS

- Leave out credible accidents or incidents, especially high consequence risks which could be the result of a single human error
- Unwarranted optimism
- Unsupported assumptions
- Use risk assessment to justify a pre-determined decision
- Focus on single immediate safety solution – there is more than one slice in a ‘’swiss cheese ‘’
- Difficulty in estimating likelihood of human error

10 TOP TIPS FOR A SUCCESSFUL RISK ASSESSMENT

A team approach

Document your process

Involve key stakeholders

Workshop all ideas

Utilise the Risk Matrix and Risk Appetite / Standards

10 TOP TIPS FOR A SUCCESSFUL RISK ASSESSMENT

What are the options for control?

- Assess the effectiveness of each option

Identify top risks and those with high consequences

Review Residual Risk

- What will be the post-mitigation (residual) risk rating?

Eliminate in the first instance

List ‘minimise’ actions, with timeline

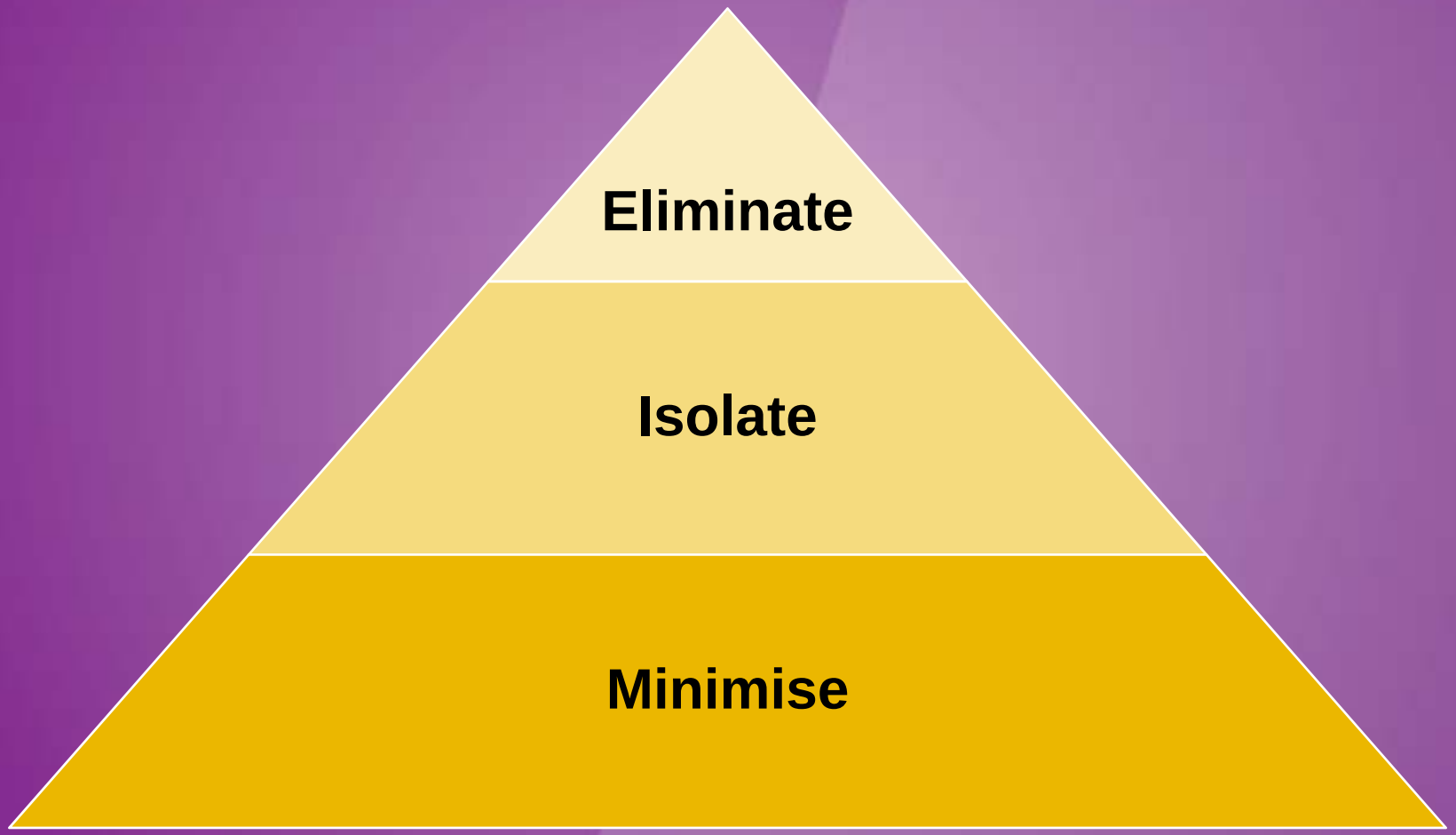
- include all the BAU activities (routine monitoring, auditing)

RISK ASSESSMENT: COMMON FAULTS

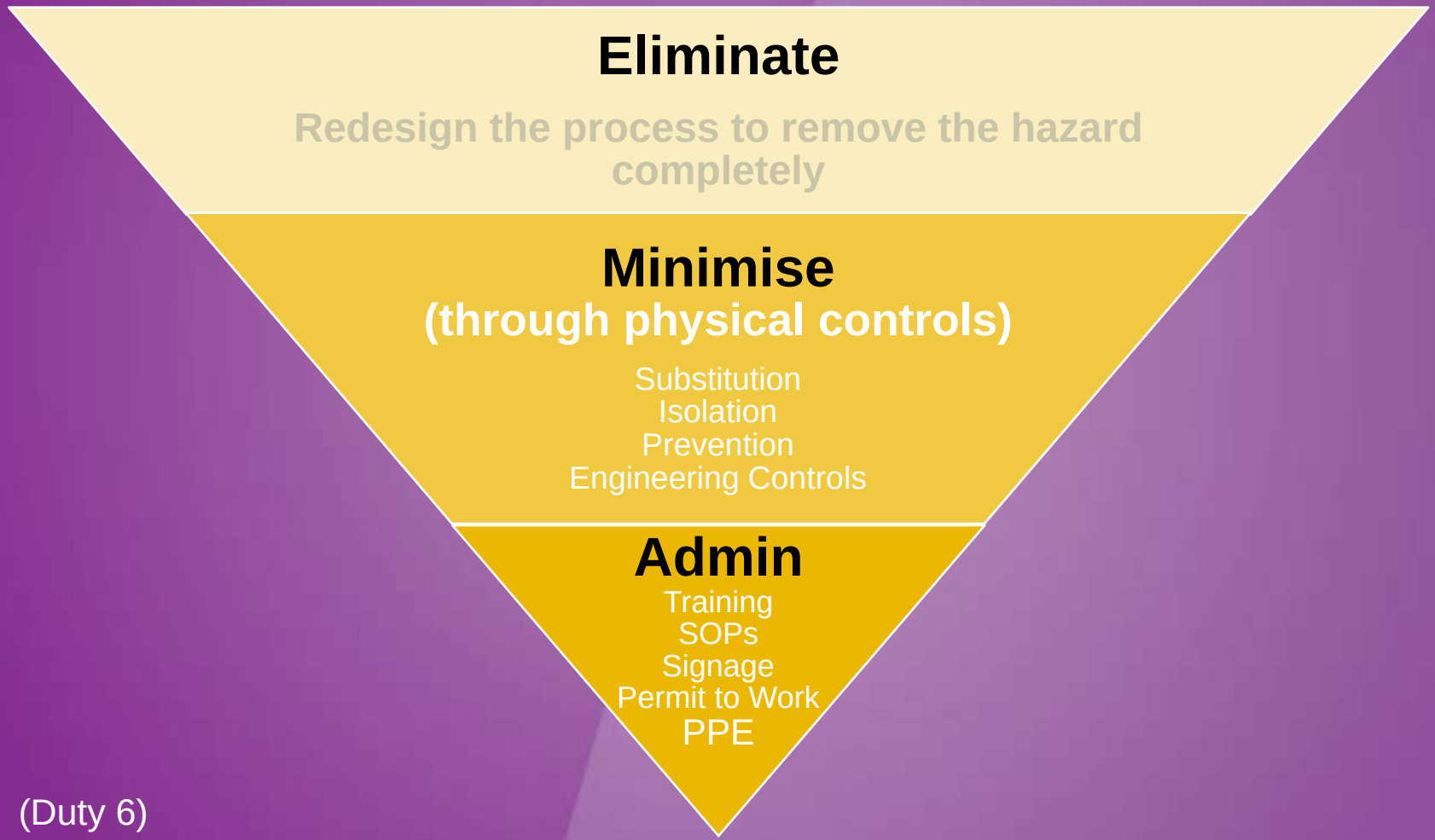
Risk assessment common faults:

- Dividing hazards into time spent between individuals (Salami)
- Not involving a team of people in risk estimation
- Not involving people with practical knowledge
- Failure to identify all hazards associated with a particular activity
- Identify immediate safety features and not longer term health factors
- No regard for psychosocial hazards
- Not doing anything with the results
- Not directly linking risk to control
- Failure to document the risk assessment process

HIERARCHY OF CONTROL: CURRENT PRACTICE



HIERARCHY OF CONTROL - PROPOSED



(Duty 6)

COSTS AND REASONABLY PRACTICABLE….

- All risks can be controlled and it is always possible to do something.
- The cost of controlling a risk cannot be used as a reason for doing nothing.
- The greater the likelihood and/or the greater the consequence then then less emphasis should be given to cost.
- If two control measures provide the same levels of protection and are equally reliable, you can adopt the least expensive option.
- Cost cannot be used as a reason for adopting controls that rely exclusively on changing people's behaviour or actions when there are more effective controls through elimination, substitution, engineering or isolation.

MONITOR AND MAINTAIN:

The key to effective risk management

- Frequency based on risk level
- Are the controls still in use and in place?
- Are the controls still effective?
- Is the exposure/interaction with the hazard different?

(Duty 7)

REVIEW:

- Is the control actually controlling the risk?
- Has the hazard changed?
- Has the risk changed?
- Has the process changed?
- Have there been any similar incidents?
- How will we review these risks on an ongoing basis?

(Duty 8)

BREAKOUT: SMALL TEAM ACTIVITY

- Choose a typical activity
- List the hazards associated with that activity
- **Feedback**
  - What hazards did you identify?
  - Are all significant?
- Convert to a Risk Register
- Assess and evaluate risks to assist with prioritization
- **Feedback** what worked well?
  - What was challenging?

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