



Kursus 'Basic Introduction to Risk Assessment'

5 & 6 Oktober 2022



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Learning Objectives



At the end of the session, the participants will be able to:-

1. define the definition of HIRARC
2. define the definition of hazards, danger and risk
3. explain the 6 classification of hazards
4. explain potential sources of hazards
5. describe the risk assessment process

SCOPES



1. HIRARC Introduction.
2. Hazard Classification.
3. Hazard Category
4. Hazard Identification.
5. Hazard Identification Techniques.
6. Risk Assessment Methodology.
7. Risk Control Plan.
8. HIRARC Documentation.
9. Tabletop exercise

QUESTIONS:



- Are we working in a safe working environment @ FPSK?

Adakah kita bekerja dalam persekitaran pekerjaan @ FPSK yang selamat?

- Why we need Risk Assessment?

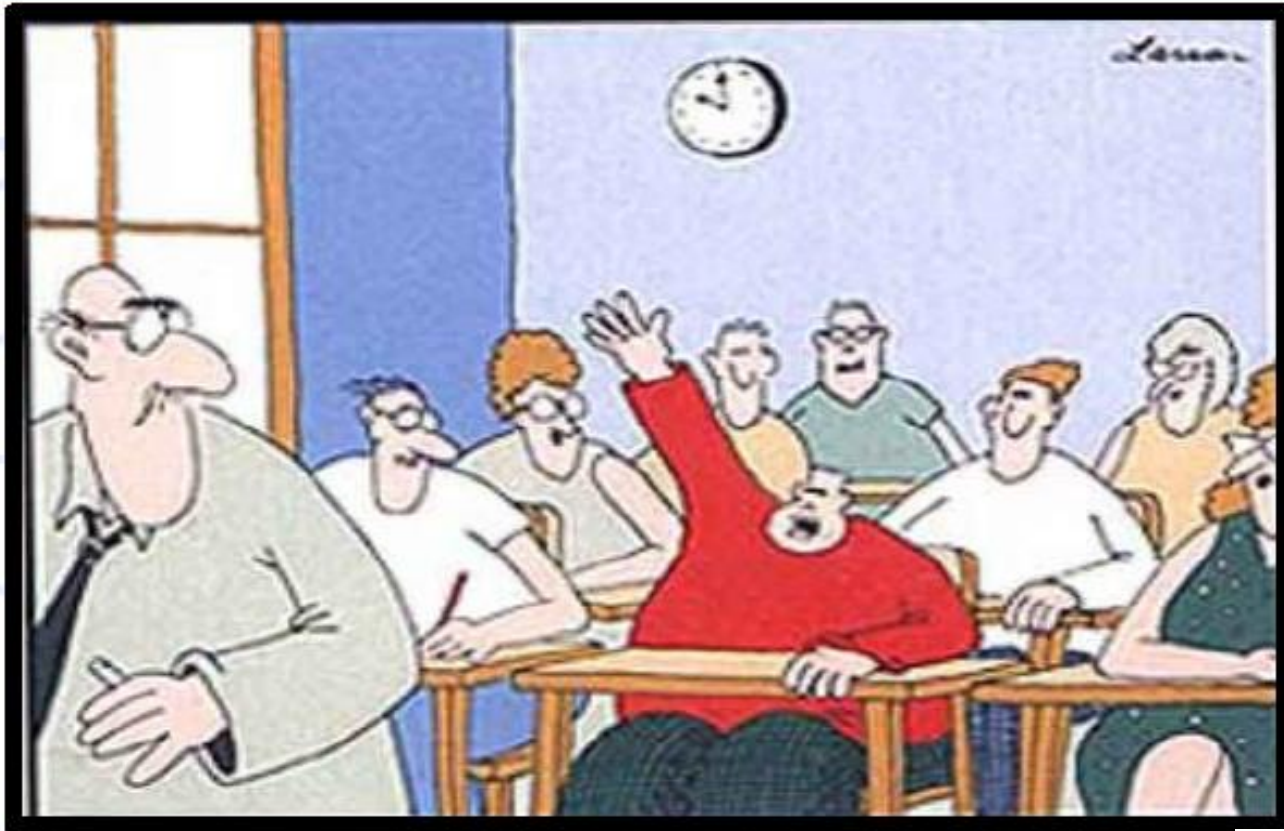
Kenapa kita memerlukan Analisis Risiko?

QUESTIONS:



- **Why we need Risk Assessment?**
Kenapa kita memerlukan Analisis Risiko?
- ✓ A risk assessment is **the process of identifying what hazards currently exist or may appear in the workplace.**
- ✓ A risk assessment defines which workplace hazards are likely to cause harm to employees and visitors.

Before we start, if at anytime you need to excuse yourself, please do ...



“May I be excused? My brain is full.”



With Knowledge We Serve

What is HIRARC?

Hazard **I**dentification, **R**isk **A**ssessment and **R**isk **C**ontrol

Pengenalpastian Hazard, Penaksiran Risiko dan Kawalan Risiko

Kenapa HIRARC penting???





JABATAN KESELAMATAN
DAN KESIHATAN PEKERJAAN



DEPARTMENT OF OCCUPATIONAL
SAFETY & HEALTH

HIRARC FORM

Results

HIRARC FORM

Company		Conducted by:		
Process/Location		(Name, designation)		
Approved by:				
Date:		Review date:		

1. Hazard Identification				2. Risk Analysis				3. Risk Control	
No	Work Activity	Hazard	Cause	Existing Control	Likelihood	Severity	Risk	Recommended Control	PIC(Due date/status)
1								-	-
2									
3									
4									

LEGISLATION



Official Website
**DEPARTMENT OF OCCUPATIONAL
SAFETY AND HEALTH**
Ministry of Human Resource



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SERVICES

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LEGISLATION



Legislation

 Acts

 Codes of Practice

 Guidelines

 Order

 Regulations

Now: HIRARC is in here.

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LEGISLATION / GUIDELINES



Official Website
**DEPARTMENT OF OCCUPATIONAL
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-  [Building Construction & Engineering Work](#)
-  [Chemical](#)
-  [Competency](#)
-  [Ergonomic](#)
-  [General](#)
-  [Hirarc](#)
-  [Industrial Hygiene](#)
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LEGISLATION



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APC

LEGISLATION

**PERKADANGAN TATAAMALAN
INDUSTRI BAHARU:**

TATAAMALAN INDUSTRI PENGURUSAN
RISIKO KKP

INDUSTRY CODE OF PRACTICE (ICOP) ON OSH
RISK MANAGEMENT

Bahagian Dasar Antara,
dan Pembangunan Penyelidikan,
Jabatan Keselamatan dan Kesihatan
Pekerjaan, Malaysia

**SERANTA AWAN
ATAS TALIAN
ONLINE PUBLIC
ENGAGEMENT**



Legislation

- Acts
- Codes of Practice
- Guidelines
- Order
- Regulations

HIRARC will move to ICOP soon



LEGISLATION



ABOUT DOSH

SERVICES

LEGISLATION

LEGISLATION / CODE OF PRACTICES

KADANGAN TATAAMALAN INDUSTRI BAHARU:

TATAAMALAN INDUSTRI PENGURUSAN
RISIKO KKP

INDUSTRY CODE OF PRACTICE (ICOP) ON OSH
RISK MANAGEMENT

Bahagian Dasar Antara,
dan Pembangunan Penyos,
Jabatan Keselamatan dan Kes-
Pekerjaan, Malaysia

SERANTA AWAN
ATAS TALIAN
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ENGAGEMENT



Codes of Practice

Chemical Management

Industrial Hygiene

Occupational Health

Transportation

HIRARC will move to ICOP soon

So HIRARC will become
mandatory to be conducted by
industries .



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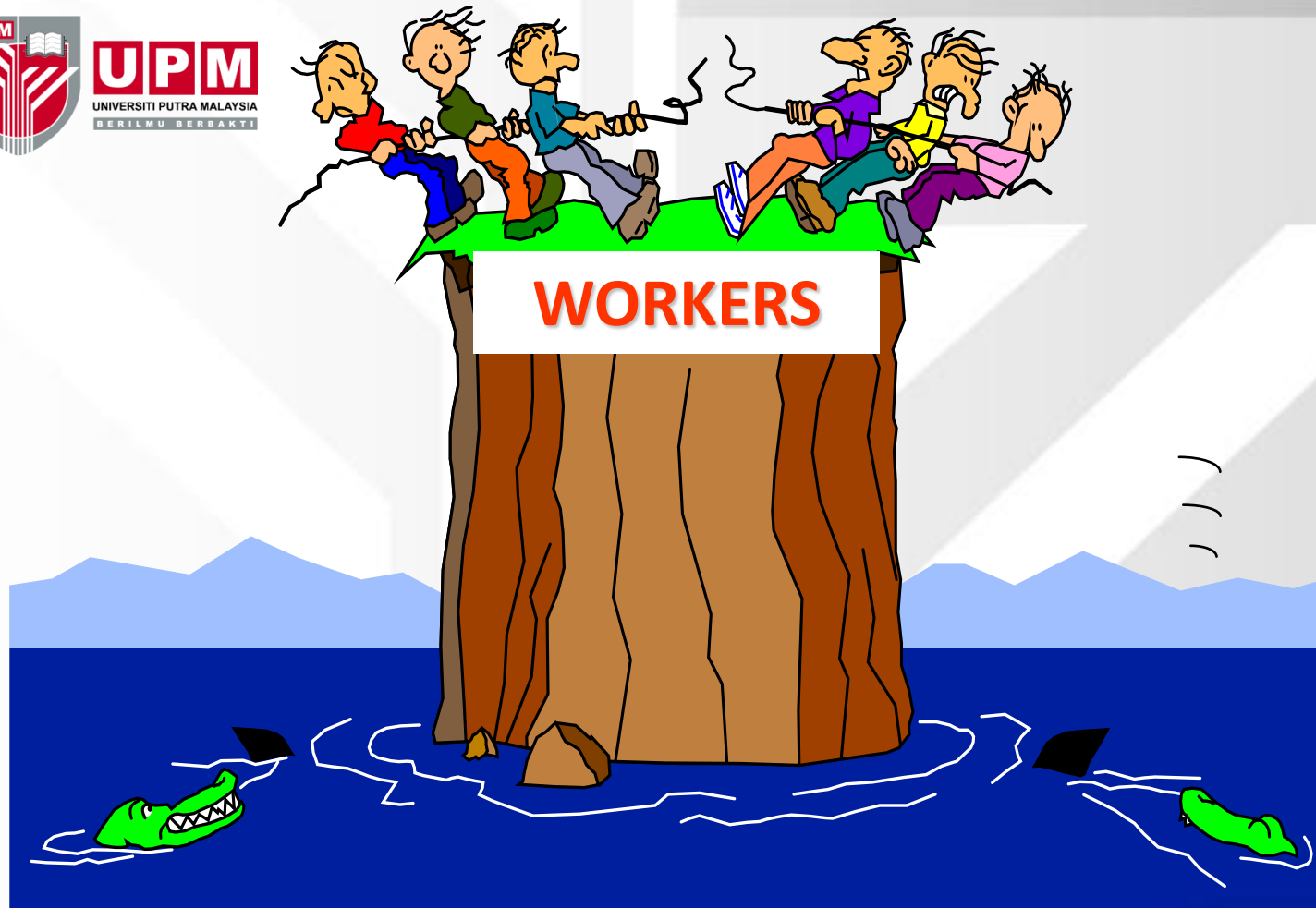


"You know what's boring? Writing out lengthy 'near-miss' accident reports."





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**WHAT DO YOU CAN THINK WHEN
LOOKING AT THIS PICTURE???**



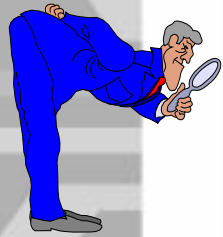
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Assess



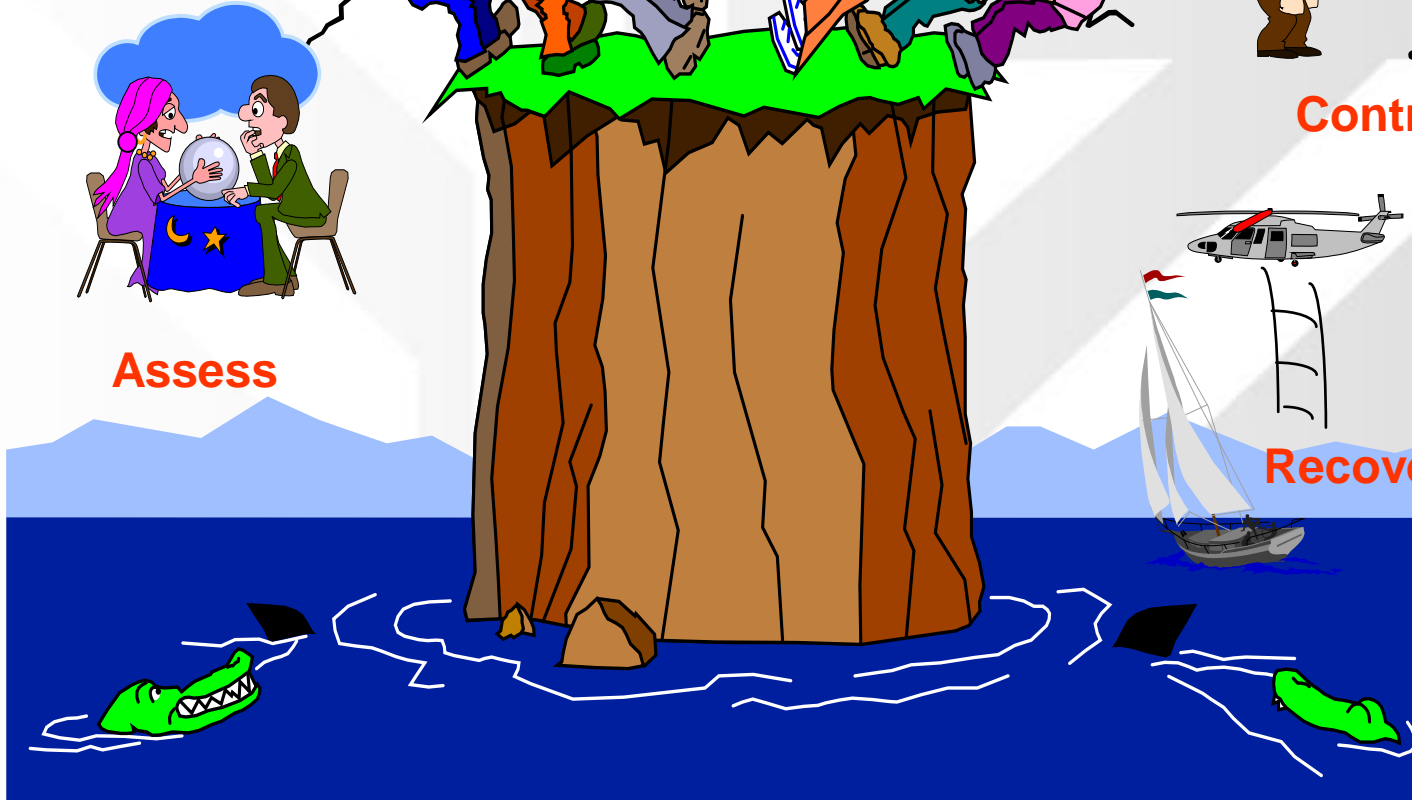
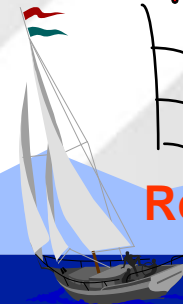
Identify



Control



Recovery



Identifying & Managing Safety and Health Risk

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What is HIRARC?



• **HI** : **H**AZARD **I**DENTIFICATION

• **RA** : **R**ISK **A**SSESSMENT

• **RC** : **R**ISK **C**ONTROL

Purpose of HIRARC



- To provide a systematic and objective approach to **assessing hazards** and their **associated risks** that will provide an **objective measure** of an identified hazard as well as provide a **method to control** the risk.
- It is one of the **general duties** as prescribed under the **Occupational Safety and Health Act 1994 (Act 514)** for the **employer to provide a safe workplaces** to their employees and other related person.

Important Terms



- ☐ Hazard
- ☐ Danger
- ☐ Risk
- ☐ The Process of Risk Management
- ☐ Sources of Hazards
- ☐ Category of Hazards
- ☐ Classification of Hazards
- ☐ Methods Of Identifying Hazards
- ☐ Hazard identification
- ☐ Risk assessment
- ☐ Risk Control

Important Terms: Hazard & Danger

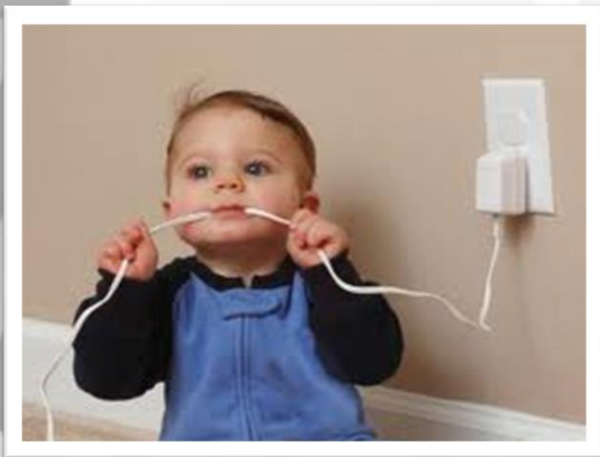


☐ Hazard

Source or a situation with a ***potential for harm*** in terms of ***human injury or ill health, damage to property, damage to the environment*** or a ***combination*** of these.

☐ Danger

Relative exposure to hazard.



Important Terms: Risk



❑ Risk

A combination of the **likelihood (Kemungkinan)** of an occurrence of a hazardous event with specified period or in specified circumstances and the **severity (Keterukan)** of injury or damage to the health of people, property, environment or any combination of these caused by the event.



Huawei R&D Lab Catches Fire in Dongguan, China

Important Terms

□ Hazard vs Risk

Important Terms: The Process of Risk Management

❑ Risk management

The **total procedure** associated with identifying a hazard, assessing the risk, putting in place control measures, and reviewing the outcomes.



Important Terms: Sources of Hazards

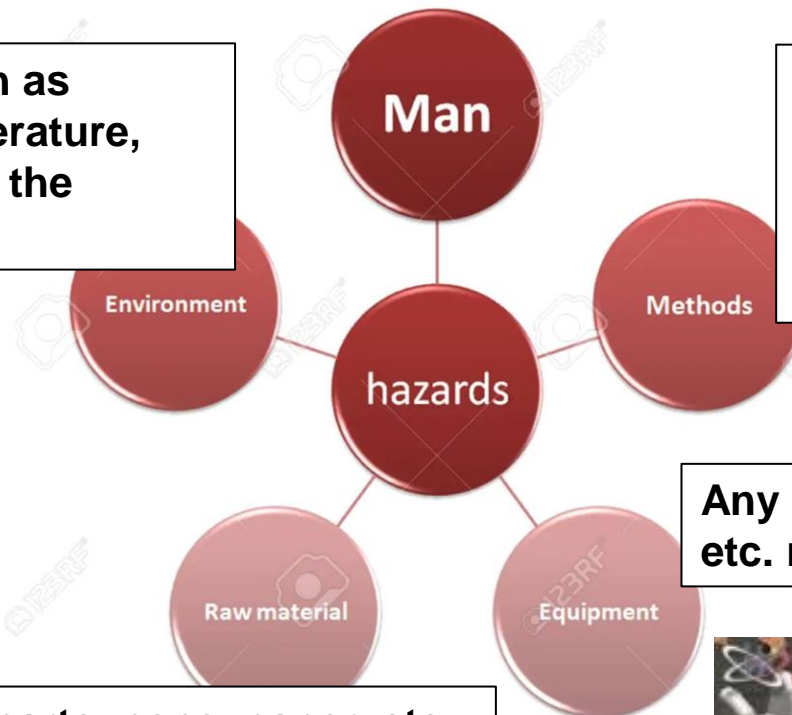


□ Sources of Hazards

Anyone involved with the process

The conditions, such as location, time, temperature, and culture in which the process operates

How the process is performed and the specific requirements for doing it, such as policies, procedures, rules, regulations and laws



Any equipment, computers, tools etc. required to accomplish the job

Raw materials, parts, pens, paper, etc. used to produce the final product



Important Terms: Category of Hazards



□ Category of Hazards

- 1) The **obvious hazard**: apparent to the human senses, e.g. unguarded machinery, building defect
- 2) The **concealed hazard**: not apparent to the human senses, e.g. electricity, non-smelling toxic vapours, pressure
- 3) The **developing hazard**: cannot be recognized immediately, will develop over time, e.g. worn tyre, frayed steel cables
- 4) The **transient hazard**: intermittent hazard, e.g. overloading, sticking safety valve



Important Terms: Classification of Hazards



☐ Classification of Hazards

Physical

Chemical

Ergonomic

HAZARDS

Psychosocial

Biological



Important Terms: Methods Of Identifying Hazards



□ Methods Of Identifying Hazards



Workplace
Inspections



Discussions &
Interview



Accident
Statistics/Report



Internal/External
Audits

Important Terms: Hazard identification



HIRARC

□ Hazard identification

The **identification of undesired events** that lead to the materialisation of the hazard and the mechanism by which those undesired events could occur.



Important Terms: Risk Assessment



HIRARC

Risk Assessment

Risk = Likelihood x severity

- Assess exposure → likelihood
- Assess hazard → severity

TAHAP RISIKO RISIKO TINGGI



TAHAP RISIKO RISIKO SEDERHANA



TAHAP RISIKO KURANG RISIKO



TAHAP RISIKO RISIKO BOLEH DIABAI



❑ What is risk?

Risk is something that we as individuals live with on a day-to-day basis.

Risk = Likelihood x Severity

LIKELIHOOD (L)	EXAMPLE	RATING
Most likely	The most likely result of the hazard / event being realized	5
Possible	Has a good chance of occurring and is not unusual	4
Conceivable	Might be occur at sometime in future	3
Remote	Has not been known to occur after many years	2
Inconceivable	Is practically impossible and has never occurred	1

SEVERITY (S)	EXAMPLE	RATING
Catastrophic	Numerous fatalities, irrecoverable property damage and productivity	5
Fatal	Approximately one single fatality major property damage if hazard is realized	4
Serious	Non-fatal injury, permanent disability	3
Minor	Disabling but not permanent injury	2
Negligible	Minor abrasions, bruises, cuts, first aid type injury	1

RISK ASSESSMENT

Risk Characterization

● Risk Matrix

Likelihood (L)	Severity (S)				
	1	2	3	4	5
5	5	10	15	20	25
4	4	8	12	16	20
3	3	6	9	12	15
2	2	4	6	8	10
1	1	2	3	4	5



High



Medium



Low

RISK ASSESSMENT

Risk Characterization

Risk level	Description	Action
15 - 25	High	Requires immediate action to control the hazard as detailed in the hierarchy of control. Actions taken must be documented on the risk assessment form including date for completion.
5 - 12	Medium	Requires a planned approach to controlling the hazard and applies temporary measures if required. Actions taken must be documented on the risk assessment form, including date for completion.
1 - 4	Low	May be considered as acceptable and further reduction may not be necessary. However, if the risk can be resolved quickly and efficiently, control measures should be implemented and recorded.

Important Terms: Risk Control



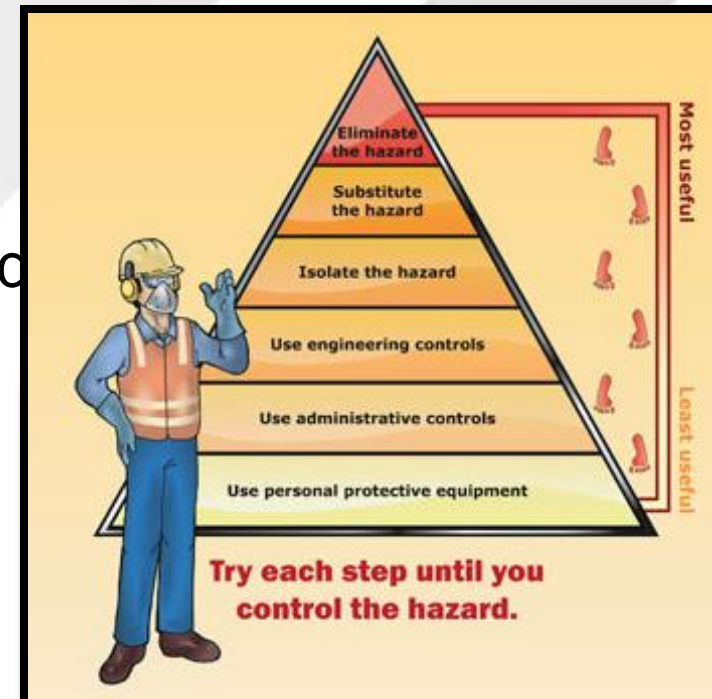
HIRARC

❑ Risk control

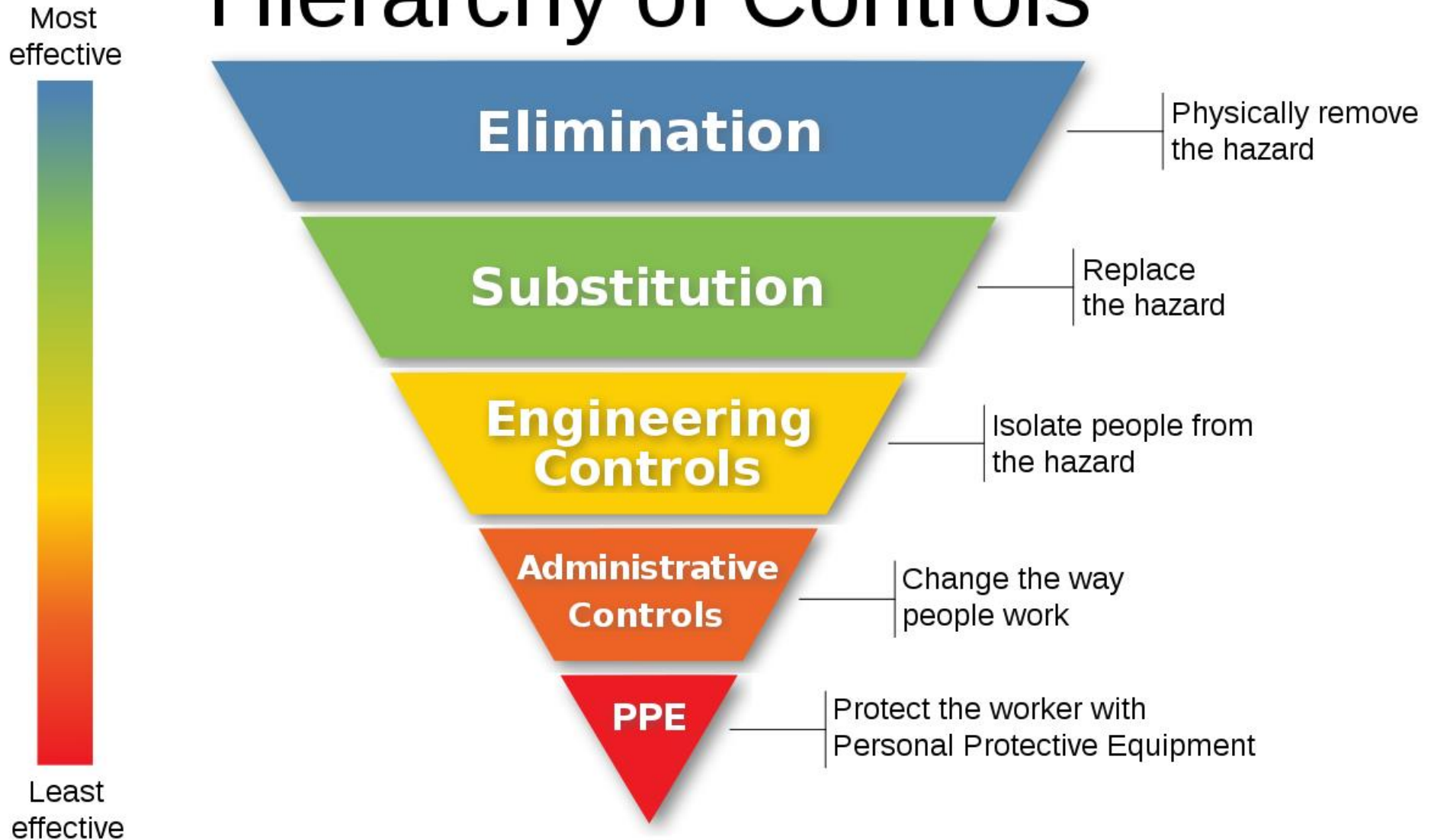
means the **process of implementing measures** to reduce the risk associated with a hazard.

❑ Hierarchy of control

means the established priority order for the **types of measures** to be used to control risks.



Hierarchy of Controls



HAZARD & RISK

funny
OR DIE.COM

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Soalan:

Senaraikan beberapa contoh insiden yang pernah berlaku di kawasan kerja anda



THANK YOU

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