

Assessments of Risk

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Introduction

The purpose of the risk assessment is to identify the hazards that need to be controlled and to reduce the risk of harm to an acceptable level.

Harm can be associated with the ongoing health and safety of individuals, damage to property or equipment, negative effects on the environment and reputational status.

Hazard Identification and the Assessment of Risk is the starting point to agreeing necessary control measures and for designing and implementing a Safe System of Work.

That Safe System of Work must include checking and monitoring the effects of those control measures.

Purpose of Risk Assessment



Eliminate or reduce the occurrence of unplanned event which could result in loss or injury

Reduce the severity of any loss or injury in the event of an unplanned event

Re-assess any changes or improvements!

Risk Assess throughout the lifecycle of a 'project' from 'Design' to 'Demolition'

Project Risk Management

Rysg Risk

- Design Risk Assessments
- HAZIDs / HAZOPs
- Work Risk Assessments
- Task Specific Risk Assessments
- Project Risk Register

Cydymffurfiaeth Compliance

- Legislation
- Contractual Obligations
- Project Legal Register
- Client OHS&E Strategy
- CDM
- ISO 45001

Cynllun Plan

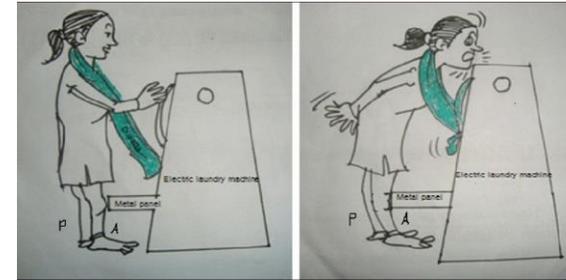
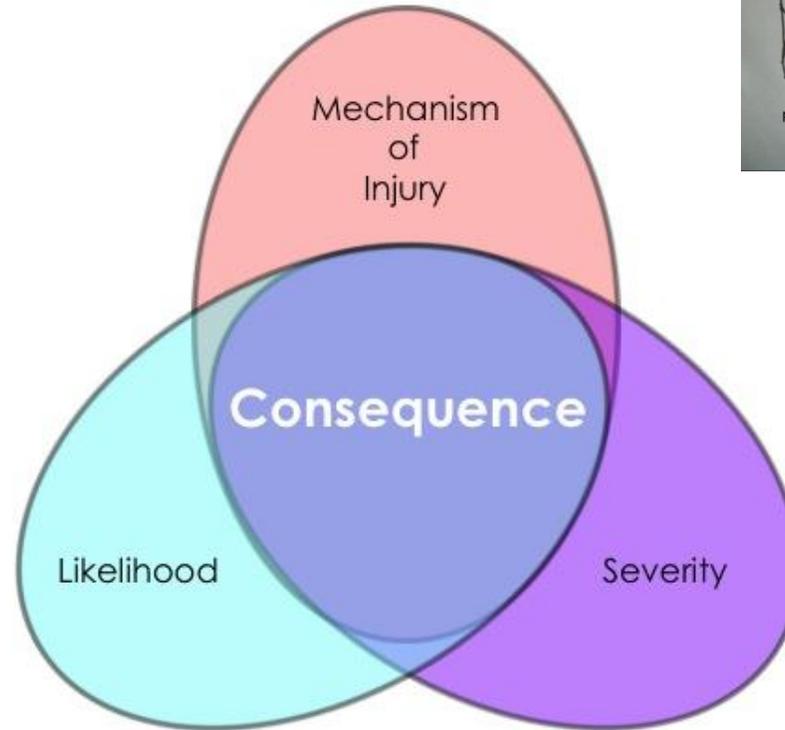
- Project Work Plan
- Project OHS&E Plan
- CDM Pre-Construction Information
- Agreed and Confirmed Responsibilities
- Construction Phase Safety Plan

Definition of Risk

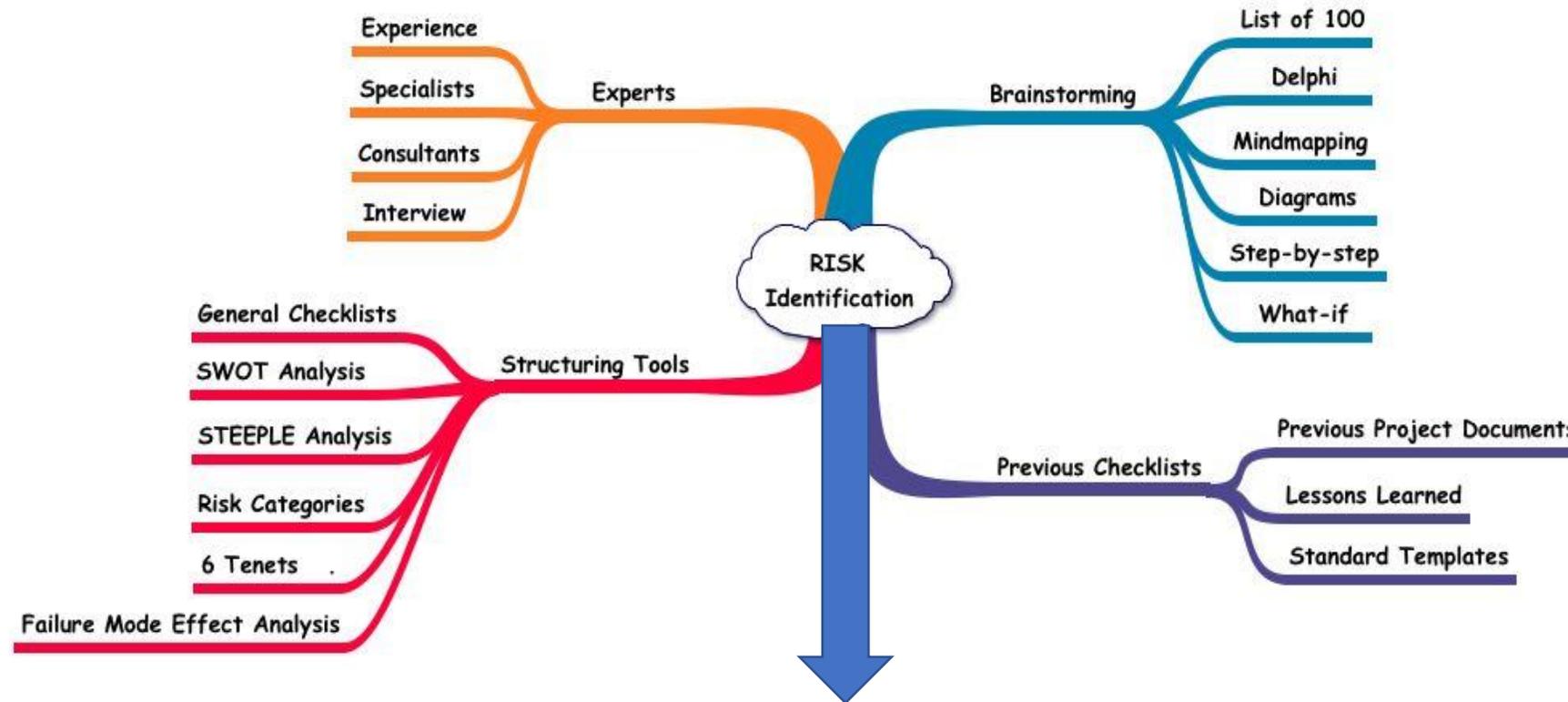
- Perygl - Hazard - Potential to cause harm or damage
- Risg – Risk - Likelihood harm or damage will happen and the resulting consequences

- Risk is made up of three components:
 - **Probability** of a threat or opportunity
 - **Risk Events** and how harm could occur
 - **Risk Impacts** and severity on any harm

Risk assessment



Risk Identification



- Risk Register
- Aspect and Impacts Register
 - Risk Assessments
 - Safe System of Work

Design Risk Management

Design Risk Management (DRM) is a means by which designers can demonstrate that the designs can be built, used, maintained and eventually demolished without negatively affecting the safety, health and wellbeing of those involved in the construction process or those who may be impacted by the structure.

A design risk assessment (DRA) is the act of determining potential risk in a design process, either in a concept design or a detailed design. It provides a broader evaluation of your design to ensure Critical to Safety (CTS) and not just Critical to Quality (CTQ) and will enable you to eliminate possible failures and reduce the impact of potential failures throughout the lifecycle of the asset

Design Risk Assessment

Whatever your role in the project, Safety in Design aims to improve health and safety by helping to:

Plan

- Sensibly plan the work so the risks are managed from start to finish

Consultation

- Have the right people available for the right job at the right time

Cooperate and coordinate

- Cooperate and coordinate your work with others about the risks and how they are being managed

Documentation

- Have the right information about the risks

Communicate

- Communicate this information effectively to those who need to know

Design Risk Assessment

Legislative Requirements

Legal frameworks guide the 'Safety in Design' codes and / or standards to be adhered to.

The following considerations need to be made:

- Understand local standard and legal requirements
- Refer to a set of international and best practice and principles that others may use.
- Always check and verify the standards that are to be applied.

HAZID

A 'Hazard Identification' study is a method for identifying hazards in order to prevent and reduce any adverse impact that could cause injury to personnel, damage or loss of property, environment and production, or become a liability.

HAZOP

A 'Hazard and Operability' study (HAZOP) is a structured and systematic examination of a complex planned or existing process or operation in order to identify and evaluate problems that may represent risks to personnel or equipment.

HIRA

‘Hazard Identification and Risk Assessment’ is a process that consists of a number of sequential steps such as hazard identification, consequence & frequency assessment, risk estimation based on the existing controls and recommendations to reduce those risks which are not under acceptable limits.

Control Measures - design

Build to design standards

Guards

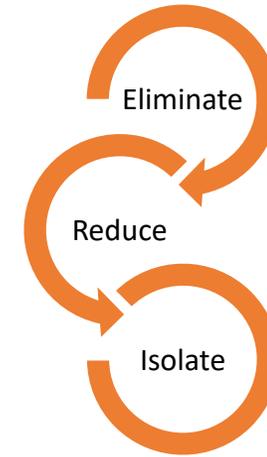
Points of isolation

Emergency stops

Safe Access and Egress

Fall prevention

Etc, etc



Checking – HAZID, Certification and Scheduled Examinations

Control Measures - systems

Safe Working Procedures

Safety Rules

Method Statements

Fire & Safety Inspections

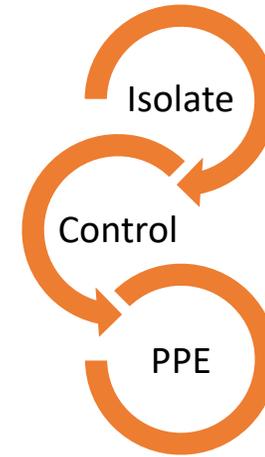
Training & Competence

Change Management

Emergency Response

Etc, etc

Checking – Inspection and Audits



Control Measures - people

Selection

Training

Competence

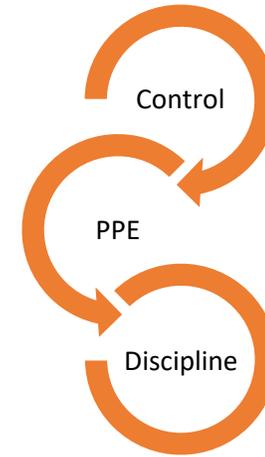
Behaviour

Attitudes

Beliefs

Motivation

**Checking - Inductions, Safety Conversations, Leadership,
Consultation and Support**



Monitor and Review

- During inspections and monitoring
- Following an incident
- Whenever change has occurred
- Periodically

Safety Conversations and Consultation

Summing Up

Risk Assessments are better than Accident Investigations

Proactive – before any event

Carried out to identify hazards, determine risk and control introduce control measures to allow a safe system of work and to avoid accidents.