


**Government of South Australia**  
SafeWork SA





**ENGINEERS AUSTRALIA**

**ALARP vs SFAIRP**  
**(within the context of WHS legislation)**  
**Wednesday 23 July 2014**

C.S.Wong  
Chief Officer – Specialist Services  
Chief Adviser - Electrical


safe, fair, productive working lives



**Government of South Australia**  
SafeWork SA

**Presentation Outline**

- ALARP
- SFAIRP (WHS legislation context)
- Applying ALARP to meet SFAIRP?
- Discussion





Government of South Australia

SafeWork SA

## ALARP principle

Residual risk shall be as low as reasonably practicable

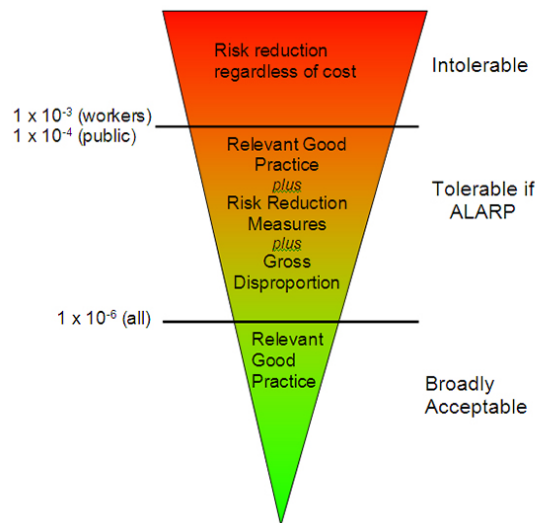
It has particular connotations as a route to reduce risks SFAIRP (so far as is reasonably practicable) in UK Health and Safety law.

- For a risk to be ALARP it must be possible to demonstrate that the cost involved in reducing the risk further would be grossly disproportionate to the benefit gained
- It is more a best common practice of judgement of the balance of risk and societal benefit



Government of South Australia

SafeWork SA



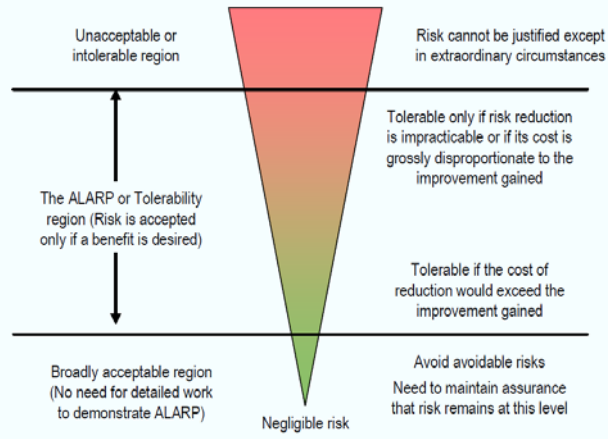
Ref: Guidance on ALARP Decisions in COMAH



Government of South Australia

SafeWork SA

### The ALARP principle (As low as reasonably practicable)



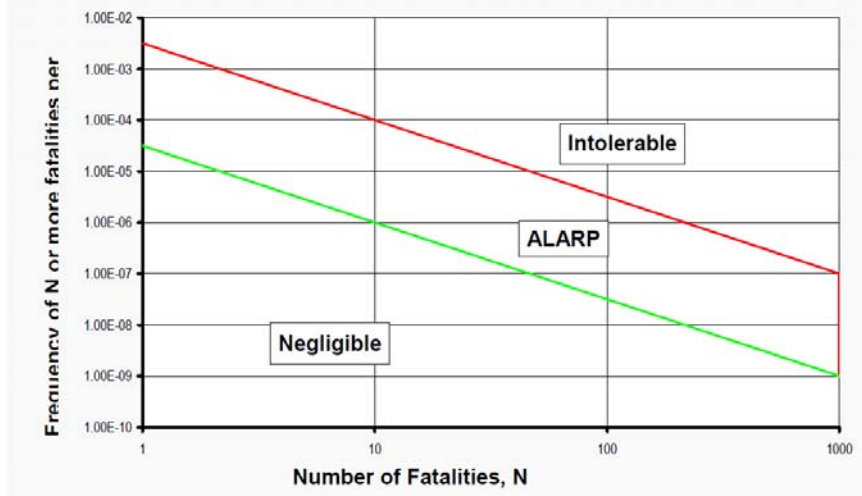
Ref: HIPAP 4: Risk Criteria for Land Use Safety Planning



Government of South Australia

SafeWork SA

### Indicative Societal Risk Criteria



Ref: HIPAP 4: Risk Criteria for Land Use Safety Planning



Government of South Australia

SafeWork SA

## What is 'reasonably practicable'?

(Model WHS Act section 18)

Two elements to what is 'reasonably practicable':

A duty holder must consider:

- 1) **What can be done** – that is, what is possible in the circumstances for ensuring health and safety
- 2) Whether it is reasonable in the circumstances **to do all that is possible**



Government of South Australia

SafeWork SA

## What is 'reasonably practicable'?

Factors that may determine whether something is 'reasonably practicable' :

- Likelihood of the hazard & associated risks occurring
- Degree of harm that might result from the hazard/risks
- What the person concerned **knows, or ought reasonably to know** about the hazard/risks, and ways of eliminating the hazard/risks (eg through design)
- The availability & suitability of ways to eliminate or minimise the risks



Government of South Australia

SafeWork SA

## What is 'reasonably practicable'?

Factors (continue):

- The costs associated with available ways of eliminating or minimising the risk, including whether the cost is grossly disproportionate to the risk
- Importantly, the issue of influence and control is also considered in what is 'reasonably practicable'
- Note: ALARP - as low as reasonably practicable
  - *Non-tolerable risks must be reduced (ALARP)*
  - *Provide safety information (residual risks) to downstream*



Government of South Australia

SafeWork SA

## What can be done and whether it is reasonable to do all that is possible?

- **Dealing with scientific uncertainties:**
  - using state-of-the-art technologies & advanced materials
  - physiochemical properties including toxicological health hazards in "*not known or unknown*" territory
  - Long term health effects not known or not available
- Apply the ***Precautionary Approach***



Government of South Australia

SafeWork SA

## Scientific Uncertainty and Precautionary Approach

- **Conventional risk management approach**
  - hazard and risk of harm are reasonably well known
  - the required degree of control is also known
- **Uncertainty gives rise to issues in risk management**
  - long term hazards may be poorly understood or unknown
  - difficult to know whether controls are appropriate or adequate;
  - it will not be known with certainty whether controls are sufficient or overly stringent



Government of South Australia

SafeWork SA

## Precautionary Approach

- The lack of full scientific certainty should not be the reason for postponing or ignoring measures to prevent, control or abate the risk to workplace health and safety.
- Decision-making and action should be proportionate to the degree of risk as guided by—
  - assessment of risk-weighted consequences of options; and
  - to ensure minimum disruption, consistent with providing any necessary protection from identified workplace safety risks.



Government of South Australia

SafeWork SA

## Prudent Avoidance

- **Prudent Avoidance** is a precautionary principle in risk management, stating that reasonable efforts to minimise potential risks should be taken when the actual magnitude of the risks is unknown (Prof. Granger Morgan of Carnegie Mellon University)
- Hence prudent avoidance principle is seen as a better alternative than other approaches to risk management such as ALARP because it makes reasonable efforts to reduce possible risk without creating a specific numeric standard in situations not generally supported by strong scientific evidence



Government of South Australia

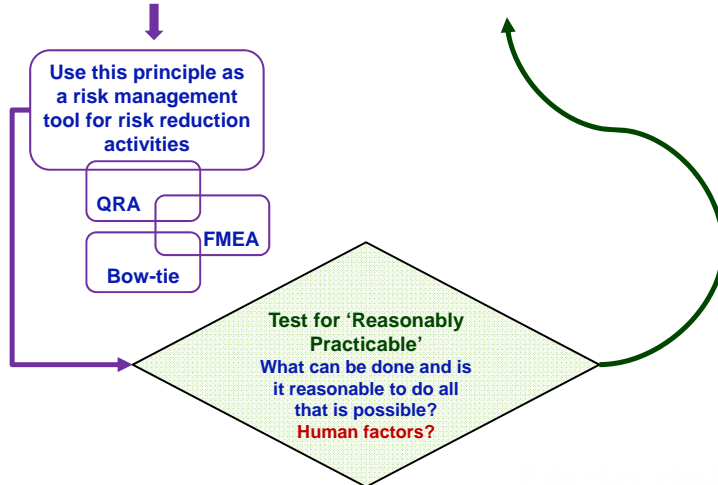
SafeWork SA

## The relevance of **cost** in determining reasonable practicability

- Capacity to pay is not relevant:
  - *The question of what is reasonably practicable is determined objectively, not by reference to the particular PCBU's capacity to pay or other individual circumstances*
- A PCBU cannot expose people to a lower level of protection simply because it is in a lesser financial position than another PCBU facing the same hazard or risk in similar circumstances.



# Applying ALARP to meet SFAIRP?



# References







**Government of South Australia**  
SafeWork SA

# DISCUSSION?

