

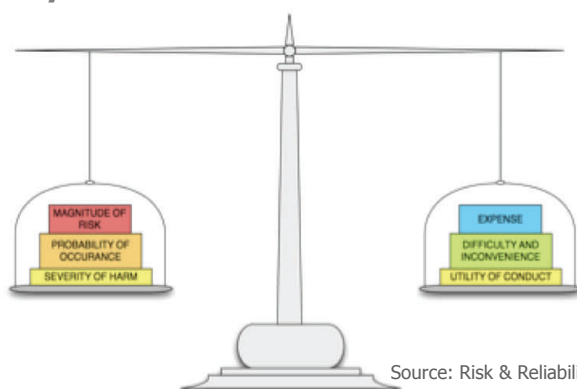
# ENGINEERING DUE DILIGENCE

Half day briefing for senior decision makers and corporate counsel

***Cost effectively ensure risks are minimised  
and decisions are defensible***

The briefing shows how to consider criticality, risk and reliability together in your organisation to ensure common law due diligence

*.....that all reasonable practical precautions are in place on the balance of the significance of the risk vs the effort required to achieve them .....*



Source: Risk & Reliability—An Introductory Text (revised 7th edition)

- Properly address the different types of risk – business, project, and safety
- Ensure that precaution analysis takes priority over hazard analysis
- Conduct completeness checks to ensure no critical issues are overlooked
- Ensure outcomes are defensible – to clients, public, government & courts
- Align analysis with the organisation's goals and objectives
- Satisfy common law requirements rather than just current standards
- Review the utility of the new ISO 31000 risk management standard
- Explain why many risk registers fail
- Consider implications of the new Australian national model OHS legislation and regulations

**WELLINGTON** | Tuesday 23 February 2010 8.30 am - 12.30pm  
| Level 1, South British Building  
| 326 Lambton Quay Wellington New Zealand

**Fee** | NZ\$700 per person, includes Risk & Reliability An Introductory Text (revised 7th edition)  
**Registration** | r2a@rocarm.com | F +61 3 9865 8615 | T +61 3 9865 8628

**Briefing Leader** | Richard Robinson BE BA FIEAust Director R2A | www.r2a.com.au  
| Rocarm2a | ABN 82 007 154 458

# ENGINEERING DUE DILIGENCE

## Briefing Outline

*Cost effectively ensure risks are minimised and decisions are defensible*

## A ½ day briefing for senior decision makers

### Objective

The objective of the briefing is:

- a) To illustrate why the current risk management processes have often stifled organisations and inhibited useful action, resulting in frustration and huge unnecessary expense; and
- b) To explain how the current risk paradigm shift, from hazard based to solution (precaution) based risk management, resolves this issue in a way consistent with the common law duty of care.

### The Issues

The frustration associated with current risk management process has resulted in questions, from R2A clients, usually at a board or general manager level, such as the ones below:

- *We have applied the risk management process described in the Risk Management Standard. We have used reputable consultants to do this. We talked to every stakeholder we could. But when we went to act on the outcomes of all these deliberations, all hell broke loose including potential legal action. What happened, why did it happen and what can we do about it?*
- *We are required to have a risk register. It satisfies our audit requirements but it actually doesn't work very well and causes enormous frustration. Can you help?*
- *Our organisation uses a 5x5 (or 3x3 or 6x4) risk characterisation tool. But as a board level decision making tool, it's not making sense. Why is this?*
- *Does obtaining a license to trade from our regulator mean that we have satisfied our common law duty of care? That is, does achieving ALARP (As Low As Reasonably Practicable) in the eyes of our regulator satisfy the courts?*

### Context

To establish the context for Engineering Due Diligence, the concept of risk as a human construct will be explained along with the current dominant risk paradigms and due diligence requirements of the common law.

### R2A Risk Management Process

This session will outline R2A's top down approach to risk management, which has proved wholly successful with the above concerns to date. It adopts a V-model approach that sinks to the level of detail required to come to a judgement as to the actions to be taken.

The key advantages of and differences between solution (precaution) and hazard based risk management will also be outlined. A summary table is shown below.

### Industry Examples

Examples of how the above issues are successfully addressed by the solution (precaution) based risk management process will be provided.

### Briefing Leader

Richard Robinson BE BA FIEAust Director & Consulting Engineer R2A  
February 2010

[www.r2a.com.au](http://www.r2a.com.au)

The table below offers a comparison between the solution (precaution) based risk management and the traditional hazard based risk management approach to be discussed at the briefing. Amongst other differences, solution based risk management is really quite stimulating.

<b>Solution based, precautionary risk management</b>	<b>Hazard based risk management</b>
Focus is on solutions and the way forward.	Focus is on problems and their complexity.
Focuses stakeholders on common ground.	Causes stakeholders to analyse issues from a personal or local perspective creating suspicion, arguments and discord, often requiring resolution via a legal or quasi-legal process.
Facilitates decision justification with multiple stakeholders with overlapping interests.	For difficult problems, it creates an extraordinary level of detailed unrepeatable analysis that is unclear to the different stakeholders.
Understood by senior decision makers.	Almost impossible for senior decision makers to comprehend due to the analytical complexity and specialist skill set required.
Consistent with common (case) law precautionary scrutiny.	Fails common law scrutiny. Can only be sustained by statute law (and supporting regulation).
Top down and contextually sound.	Bottom up and often out of context.
Transparently deals with all known credible issues.	Can lose sight of the main issues amongst the detail.
Accepts that risk is primarily a human construct with some scientific aspects like consequence modelling.	Suggests risk analysis is wholly scientific and provides consistent, repeatable results. This is clearly not so. Two independent hazard analysts never come up with the same answer.
Holistic viewpoint.	Results depend on the particular analysis metaphor adopted and so results can have a skewed meaning.
Recognises that risk issues are unique to place, time and culture and may need different risk management tools and techniques to solve.	Assumes that all risk issues are equally tractable to the same risk management process.
Produces a small number of cost effective precautions to address multiple issues.	Produces a large number of difficult-to-justify individual precautions for each issue, which potentially work at cross purposes or duplicate tasks across the organisation.
Ensures identified good practice is applied to known issues.	Tends to reinvent the wheel for each identified issue.

### **Solution based, precautionary risk management vs hazard based risk management**