



Welcome to the October 2008 edition of the R2A Newsletter.

This issue articulates what R2A means by technical due diligence and the ways in which we go about demonstrating it. It also considers safety case arguments with particular regard to Major Hazard Facilities and land use planning issues arising from the Buncefield explosion in the UK.

Over the last 18 months or so R2A has changed the focus of its business from risk management to technical due diligence. This has been a planned change consistent with the requirements of our established clients and the overall movement in the risk business generally. During that time we have completed a number of due diligence studies in a wide range of domains, for example, reviews of Lapstone Cutting in relation to falling rocks on the train track; provision of pilotage services in Tasmania; high level review of the Australian dairy industry; safety due diligence review for Nyrstar; fire risk due diligence review for a blending plant. This is in addition to our continuing risk work which includes project rail risk reviews in Victoria, pilotage safety cases in Queensland and aerodrome air-space risk reviews in NZ (Timaru and Paraparaumu).

Richard continues to present the 2-day short course Risk & Liability Management on behalf of Engineering Education Australia. Remaining courses for 2008 are Melbourne 29-30 October and Adelaide 26-27 November. See the EEA website at www.eeaust.com.au for further details and information. Richard will continue to deliver these courses in 2009 with dates currently being finalised.

The 7th edition of Risk & Reliability - An Introductory Text has been revised and reprinted. The revision updates references, case studies and has numerous editorial changes to improve readability. The overall format and price remains unchanged. (A4 softcover, black and white, AUD\$100 plus GST, postage and handling). To order a copy of the 7th Edition Revision contact publications@r2a.com.au.

Published by:

Risk & Reliability Associates

Independent Technical Due Diligence

Technical Due Diligence

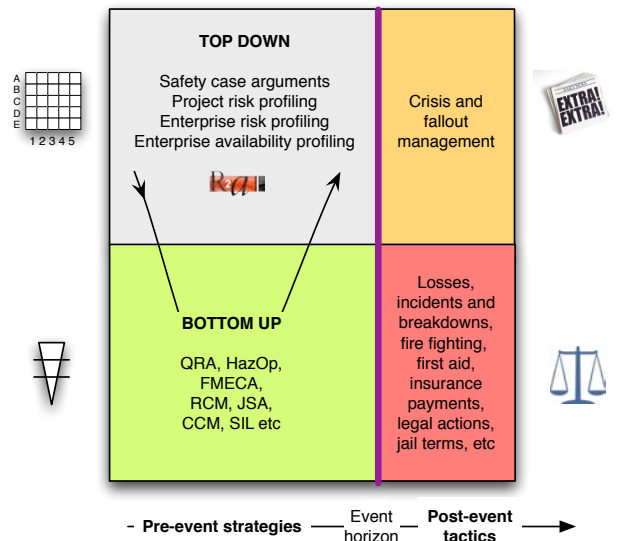
Due diligence is all about ensuring an accurate human appreciation of reality. The term seems to have derived from the US 1933 Trust in Securities Act, a part of President Franklin D Roosevelt's New Deal. This all arose because of the great depression. The act had two primary purposes. Firstly, to ensure more transparency in financial statements and, secondly, to establish laws against misrepresentation and fraudulent activities in the securities markets. Most irritatingly, this all seems uncannily relevant at the moment.

On a more philosophical level, the notion of due diligence is really about transparency, especially to third parties, which is why R2A likes to use the term. To distinguish between the financial and engineering applications, the term technical due diligence is used even though this sometimes overlaps with technical innovation and new technology considerations.

R2A presently has five primary areas of technical due diligence practice, namely:

- \* Safety Case Arguments
\* Enterprise Risk Profiling
\* Project Risk Profiling
\* Enterprise Availability Profiling, and
\* SIL Allocation

In all these aspects, the purpose is to create transparency to senior decision makers (and to the courts, shareholders, tax and rate payers if required) regarding the operation of the advanced technological enterprise for which the decision maker is responsible and accountable. This means that it is a top down, prior-to-the-event proactive analysis shown in the top left hand corner of the diagram below.



Such advice needs to be (seen) to be genuinely independent and technologically competent which is why it seems to be the domain of niche consulting engineers like R2A.

www.r2a.com.au

R2A Pty Ltd
Level 1
55 Hardware Lane
Melbourne
Australia 3000

P: +613 8631 3400
F: +613 9670 6360

also in Perth & Wellington

Please address any comments to:

the.editor@r2a.com.au

## **Safety case arguments particularly with regard to MHF (Major Hazard Facilities) and land use planning**

The Buncefield incident in the UK created remote offsite over pressures previously not considered credible for oil terminals. The worst offsite case scenario usually considered was a major bund fire. The final report from the Buncefield inquiry will not apparently become available until after the legal proceedings conclude which may be several years hence. So the final determination as to the credibility of the mechanism may not become apparent for some time. Never-the-less, having occurred, the prudent assumption at the moment is to conclude that it is credible.

If it is a credible mechanism then a much larger area of surrounding land around oil terminals may be expected to be affected in land use planning terms. Common law precedent is quite clear that for all credible threats, there needs to be a demonstration that, based on the significance of the risk vs the effort required to reduce it, all reasonable practicable precautions are in place. Explosions are critical. The simplest form of protection (consistent with the hierarchy of controls) is to stop development in the over-pressure zone. R2A believes that this means for example, that a council would be negligent if they issued a new planning or building permit for a community facility in an area that a Buncefield type explosion could affect until the matter has been clearly resolved.

In some states, the relevant MHF regulator and the oil companies have a watching brief committee. But precisely whether or not Buncefield type scenarios has been included in the relevant oil company safety cases is unclear since it seems only high level summaries of the safety cases is released publicly. And it certainly may have impacts on several planning decisions of which R2A is aware currently under consideration in several states.

On separate but related matter, in the Summer 2007 Edition of the R2A Newsletter, we described why the risk target concept used for QRA was intellectually and legally flawed and would not withstand post-event common law scrutiny.

The current survival of QRA type analyses in MHF regulation appears to R2A to be an anomaly that may be perpetuated by regulation for some time but will eventually be extinguished by the common sense of the common law. Where this will leave some of the land use planning guidelines which depend on the QRA risk target approach is unclear.

### **Dr Frank Stoks**

Director, Stoks Limited  
R2A Senior Associate

#### **New Zealand Senior Associate**

Frank Stoks assists corporate, government and commercial clients with a range of independent and specialist corporate security, risk management and protective services advice. A major area of activity is assisting organisations contemplating new or altered premises, to think about and document their security and business continuity strategy in regards to the opportunities, challenges and constraints such accommodation moves inevitably provide. Organisations with mission critical operational requirements usually need to call up additional functionality over what would normally be provided by even a high quality 'standard' building.

Having facilitated a risk assessment and decided on a security strategy, Frank's role has been to prepare the Security Brief (sometimes including a business continuity component where mission critical operations are involved) which sets out the organisational risks with respect to the new premises; how those risks will be managed by a bespoke combination of building design, technological solutions and facility

management; and what the residual risks are likely to be, for senior management team or project steering committee acceptance.

Testimony to the value of these briefs is that to reach final agreement, they normally involve several iterations as the various issues and their mitigation options come to light, and as risk/value management decisions are debated and finally made. Once agreed the Brief is then given to the project consultants - architects, engineers, landscape consultants, fitout designers etc to translate performance requirements into construction plans and specifications which result in the final solution. This approach tends not only to embed protective arrangements invisibly into new premises, but for many designers they can provide the springboard for new and innovative design solutions that might not otherwise have been considered. The Brief is also used to evaluate the designers' risk mitigation suggestions, and once the building is complete, it can simply be converted into a user guide and facility management plan.

Frank is a registered architect with over 25 years architectural risk management experience, which makes him well placed to carry out

this type of work. Frank has been involved with several high profile government buildings, computer centres, control centres, museums, art galleries, and libraries and the like. He is also an acknowledged authority on Crime Prevention Through Environmental Design (CPTED) for which there is an abundance of applications in public spaces; in the spaces and edges between buildings; and even within buildings themselves.



**Dr Frank Stoks**

He can be contacted in Wellington on +614 471 0471.