



Capability Statement



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Gaye Francis	Director, Melbourne
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Dan Gardam	Business Risk Associate, Melbourne
Michael Hall	Associate, Melbourne
Andrew Irvine	Chemical Associate, London
Joe Juchniewicz	Electrical Associate, Adelaide
Dr Marlene Kanga	Senior Associate, Sydney
Narendra Mahant	Chemical Associate, Hobart
James Robinson	Mathematics Associate, Sydney
Richard M Robinson	Director, Melbourne
Captain Sandy Robinson	Aviation Associate, Melbourne
Dr Frank Stoks	Senior Associate, Wellington

R2A Due Diligence Engineers

Insight, Confidence, Trust

Organisations need robust and transparent due diligence arguments to confidently make sound technological decisions and implement systemic changes. R2A assists organisations develop and document these arguments.

What we do...

R2A provides consulting services, expert due diligence and risk management advice, education and troubleshooting.

Consulting services, expert due diligence and risk management advice, and troubleshooting

We assist clients to:

- Minimise risk and ensure due diligence
- Develop straight forward and effective risk management programs
- Prevent analysis paralysis
- Allocate Safety Integrity Levels (SILs) effectively and cost efficiency
- Ensure their project succeeds in both performance and delivery
- Apply availability modelling to optimise the effectiveness of the whole system

All R2A advice to clients is underpinned by the belief that the identification and recommendation of sensible practicable precautions for all credible threats ensures that legal due diligence is satisfied.

Education

R2A has numerous activities promoting risk and reliability engineering knowledge including:

- The R2A Text, Risk & Reliability – An Introductory Text. Now in its 7th edition and used by four Australian Universities. Copies can be purchased from R2A at <http://www.r2a.com.au/text.php?content=3>
- Presenting the Engineering Education Australia two day Risk Management public short course. See www.eeaust.com.au
- Development of a Systems Safety post graduate unit for Edith Cowan University, to start in 2010. See www.sebhs.ecu.edu.au/public_health/osh/
- A suite of briefings and workshops to teach the R2A method, a top-down approach to uncertainty management that minimises risk outcomes and is defensible under law. See www.rocarm.com/R2a.htm
- Customised briefings and workshops

Who we are...

R2A is a genuinely independent niche practice, offering a personalised approach to each commission drawing on an adroit knowledge of current and emerging due diligence techniques. We work closely with clients to quickly and accurately assess and understand their needs.

All work has a big picture perspective that ensures reviews and assessments are in context with overall project and/or organisational objectives. Reviews are completed top down to the required depth to ensure appropriate insight into issues is obtained. We apply an inclusive and generative approach that ensures stakeholders are appropriately engaged.

We are a professional practice and fees are charged on a time charge or fixed fee basis for work completed.

R2A practices in accord with the Code of Ethics of Engineers Australia.

Why we are different...

The in-house developed R2A method is a top-down approach to uncertainty management that optimises risk outcomes and is defensible under law – unlike most standards based approaches. The method combines criticality, risk and reliability analysis in the context of the organisation or project to cost effectively ensure risks are minimised and decisions are defensible. It ensures that effort is focussed on what matters to clients, not just satisfying regulations.

R2A is not industry specific and has worked for a variety of both public and private sector organisations across industries including aviation, gas, power, maritime, road, rail and water.

Clients are encouraged to use all published R2A intellectual property. A copy of the current edition of the R2A text is provided as part of each commission.

Representative Clients

Abigroup Limited
Aerostructures
AirServices Australia
Airways New Zealand
Alluvium
Ambidji Aviation Services
Ansaldo STS Australia
ANZ Banking Group Limited
ATCANZ
Australian Rail Track Corporation
Austin Hospital
Australasian Lubricants Manufacturing Company
Australian Marine Pilots Association
Australian Marine Safety Authority
Barwon Water
BHP Billiton
BlueScope Steel Limited
Bovis Lend Lease
Brisbane City Council
Brisbane Marine Pilots
Civil Aviation Authority, New Zealand
Civil Aviation Safety Authority, Australia
ConnectEast
Connex Melbourne
CSIRO
Dairy Australia
Dampier Port Authority
Department of Consumer and Employment Protection
Department of Defence
Department of Environment and Conservation
Department of Human Services
Department of Infrastructure
Department of Justice
Department of Sustainability and Environment
Department of Transport
Department of Transport and Regional Services
Department of Treasury and Finance
Edith Cowan University
Energy Australia
Energy Safe Victoria
Engineering Education Australia
Geelong Grammar School
Gladstone Area Water Board
Goulburn Murray Water
Leighton Contractors
Main Roads Queensland
Mainco
Maritime Safety Queensland
Marlborough District Council, New Zealand
Melbourne City Council
Melbourne Stadium Limited
Melbourne Water
Metro Water Limited
Mid Coast Water
Monash University
Montgomery Watson Harza
Nyrstar
Parsons Brinckerhoff
Perilya
Port of Brisbane
Port of Melbourne Corporation
Port Phillip Sea Pilots
Powercor & CitiPower
Queensland Rail
Rail Corporation New South Wales (RailCorp)
Roan Prospecting & Mining
Rocarm
Royal Perth Hospital
Sandbar Properties
Shepparton City Council
Silcar
Silver Fern Shipping
Snowy Hydro Limited
South Port, New Zealand
Southern Rural Water
STaPS Alliance
STAR Pilots
Sugar Australia
Sydney Ports
Tasports
Teekay Shipping (Australia)
TEMCO
Thales
Thiess John Holland
Toll Transport
Transend
TransGrid
Transpower New Zealand
Transurban City Link
University of Melbourne
V/Line Passenger
VicRoads
VicTrack
Warringah Council
Water Agencies Portfolio Management
Western Power
Western Water

Testimonials - What our clients say about us.....

To continually improve our business and services we provide, R2A commissioned specialist consultants **Leading Matters®**, to independently source the opinions of our clients as part of a Client Satisfaction Survey.

Silcar is more competent in risk management as an organisation as a result of our association with R2A. R2A's demonstrated technical capability in advice on risk management and risk analysis makes the decision to use them easy. The R2A reference text on risk and reliability is one of the best that's available, especially in the Australian context.

Silcar and R2A have a solid relationship based on shared values. We regard them as strategic advisors. This means that we can share confidential information and have a relationship based on trust.

Silcar's experience is that R2A provide a thorough and reliable service. It's a focussed company with very good consultants - not just one. There's a team of excellent people. The R2A team have a good grasp of the key issues - especially around the broader risk area. For organisations seeking clear headed advice on risk and reliability at a strategic level or expert people to undertake a risk analysis, I have no hesitation in recommending R2A.

Bernie Cooper, Chief Executive Officer, Silcar Pty Ltd, Victoria.

R2A is technically competent from an engineering perspective and they're my first port of call for their specific attributes. They provide a service which is beyond risk management - it's an approach that combines pragmatic engineering and risk management. With R2A you get a person to person approach and they're able to use language a non-engineer can understand. It's small enough to retain the quality of service and provide sound technical knowledge and reports.

The size of R2A is a major virtue enabling us to have direct contact with the relevant consultants. If we have needed them, they're available at a price that represents very good value. They're responsive to our needs with service that has been good from start to finish. In recommending them I'd say that they provide highly capable engineering in a risk management context and they're independent and original thinkers.

Dan Twigg, Risk & Performance Manager, Transpower New Zealand Ltd.

We use R2A exclusively and extensively on an "as needs" basis. R2A people are easy to talk to, friendly, helpful and have a terrific depth of knowledge and experience in managing risk and safety. Their value to us is in helping fill the gaps in our organisational knowledge and experience. They give us a sense that they genuinely care for us and they want to see us excel in what we do. To us, they feel like family. We know they're always there for us. R2A staff are true professionals who continue to surpass our expectations in terms of the service they provide.

Capt. Steve Pelecanos, Chairman, Brisbane Marine Pilots Pty Ltd.

Applications and Representative Commissions

The majority of R2A's consulting work assists organisations and projects demonstrate engineering due diligence. This cost effectively ensures risks are minimised and decisions are defensible by demonstrating that all reasonable precautions are in place based on the balance of the significance of the risk versus the effort required to achieve it. Negligence does not arise because some (objective) risk target wasn't met. It arises because the precautions in place were not commensurate with the risk.

The due diligence philosophy underlies the revision of the Victorian OHS Act and regulations which came into force in July 2007 and the opinion of the High Court of Australia. It appears to also be the direction of the Rudd government's model Safe Work Act to come into force in January 2012.

R2A have developed a number of processes that combine various criticality, risk and reliability tools and techniques to demonstrate due diligence for a variety of applications. A summary of each application and representative commissions follows:

Availability Profiling

Availability profiling combines criticality, risk and reliability analyses to optimise the effectiveness of the whole system / network at best cost. The process has a particular focus on credible critical boundary (external) threats and common mode failures. It uses top-down solution based approaches that are readily understood by decision makers.

Representative commissions include:

- Risk based availability management feasibility study, Department of Sustainability & Environment
- Critical assets due diligence review, Gladstone Area Water Board
- ETP Boiler upgrade configuration modelling, STaPS Alliance
- Winneke Water Treatment Plant, Melbourne Water
- Eastern Treatment Plant, Melbourne Water
- Physical Asset Evaluation Tool development, BHP Billiton
- Mt Arthur North Coal mine, BHP Billiton
- Eastlink Tolling System, ConnectEast
- Tullamarine Data Centre, ANZ Bank
- North Island black start review, Transpower NZ

Organisational Risk Management

Organisational Risk Management develops a straightforward and effective risk management program satisfying due diligence requirements and preventing analysis paralysis. It makes risk registers useful by applying a top-down precautionary approach to identified critical issues.

Issues and precautions identify line management responsibility and enable effective and efficient auditing of precautions.

Representative commissions include:

- Risk register review, Perilya Broken Hill
- Sounds risk register review, Marlborough District Council
- Various department risk reviews, Port of Melbourne
- Enterprise risk advice, Southern Rural Water
- Risk based statewide infrastructure renewal business case, Victorian Department of Human Services
- Organisational risk advice, Silcar
- Company vehicle due diligence review, Victorian Department of Sustainability & Environment

Project Due Diligence

Project due diligence ensures projects succeed in both performance and delivery by encouraging the project team to look back from the desired project end-state to focus on those critical issues that will affect project outcomes.

This top-down approach identifying all project critical success factors allows clients, partners and contractors to align. It can be applied at all project stages and is particularly valuable in identifying enhancements during planning stages.

Representative commissions include:

- Interim Rolling Stock Project, Connex Melbourne
- Tram Procurement Project, Victorian Department of Transport
- Tugun Bypass Project, PacificLink Alliance
- EastLink, Thiess John Holland
- Marina Coastal Expressway, Singapore, Parsons Brinkerhoff
- M1 Upgrade Project, VicRoads
- Western Treatment Plant Recycled Water Project, Southern Rural Water & Melbourne Water
- Dynon Port Rail Link, Department of Infrastructure
- Gorgon Project, Ansaldo STS
- South Morang Rail Extension Project, Department of Transport
- Station Pier Gangways Project, Port of Melbourne
- Various road upgrade projects for VicRoads

Safety Case Arguments

R2A assists clients to develop safety cases that demonstrate that all statutory, regulatory and common law requirements have been met. They consist of a number of arguments that demonstrate that all reasonable practicable precautions are in place. Safety cases generally form the basis of organisational Safety Management Systems (SMS).

Representative commissions include:

- Provision of Pilotage services at all Tasmanian ports, Tasports
- Cairns & Townsville Region pilotage services review, Maritime Safety Queensland
- Avalon and Newcastle airport airspace review, Office of Airspace Regulation, Civil Aviation Safety Authority
- Taupo and Palmerston North aerodrome airspace reviews, Civil Aviation Authority, NZ
- Provision of pilotage services at Melbourne & Geelong, Port Phillip Sea Pilots
- Timbertop bushfire review, Geelong Grammar School
- Explosives due diligence review, Shepparton City Council
- Fitment of digital voice announcement & traction interlocking to NSW's suburban train fleet, RailCorp
- Introduction of regional fast rail, V/Line
- Dairy industry due diligence review, Dairy Australia
- New Street, Hampton, level crossing, Connex Melbourne
- Provision of meal breaks for Air Traffic Controllers at single manned towers, Airways NZ
- Torongo Falls Walking Track, Victorian Department of Sustainability & Environment

SIL Allocation

The SIL Allocation process developed by R2A establishes all credible critical safety threat scenarios ensuring the effective and cost efficient application of Safety Integrity Levels (SILs). This top-down process prevents expensive over specification and ensures due diligence requirements are met.

Representative commissions include:

- Tugun Bypass Integrated Transport System, PacificLink Alliance
- Control System Upgrade, Snowy Hydro
- Variable Speed Limit Signs, MainRoads Queensland
- Flood Warning System, MainRoads Queensland
- Functional Safety Assessment for Electronic Safe Working, NSW Railways

Curricula Vitae

Janelle Adrain

Consultant Engineer & Principal, Heath and Safety Essentials Pty Ltd
Associate, R2A Pty Ltd

Personal Data

Bachelor of Engineering
(Chemical) First Class Honours,
University of Queensland (1990)

Profile

Janelle specialises in the provision of consultancy services and training for the safe management of chemicals in the workplace. Services are provided in relation to hazardous substances, dangerous goods and general chemical storage and use.

Experience

Janelle has extensive experience including:

- Development of standards and procedures for the safe management of chemicals.
- Various assessments and documentation requirements for Major Hazard Facilities for local and State government approvals.
- Systematic Risk Assessments, Crisis Management Plans and Safety reports for various Major Hazard Facilities.
- Hazardous substances and dangerous goods audits and compliance checks.
- HazOp facilitation for industries including oil and gas, chemical, minerals processing and manufacturing.
- Research and development of the current edition of the NSCA Risk Score calculator and matrix.
- Preparation of auditing guidelines for the CHEM Unit for the review of Quantified Risk Assessment (QRA) submissions.
- Chemical Management training for a variety of clients.

Previously

Senior Consultant, National Safety Council of Australia (2000-2003)

Scientific Advisor (PO6), Chemical Hazards and Emergency Management (CHEM) Unit, Department of Emergency Services, Queensland (1996-2000)

Full-time PhD Student, Department of Chemical Engineering, University of Queensland (1992-1995)

Technical Risk Analyst, Industrial Risk Management Pty Ltd, Sydney (1991)

James Bell

Managing Director, Rowland Bell Australia Pty Ltd
Associate, R2A Pty Ltd

Personal Data

BE, Mechanical Engineering,
Monash University, 1974

Insurance Institute of America
General Insurance Course,
1981

Kemper Casualty Training
Course, 1981

Insurance Institute of America
Associate in Management,
1988

Gordon Southern Business
Interruption Course, 1989

Kemper Boiler and Machinery
Course, 1989

Open Water Diving Certificate
(SSI)

Profile

Jim specialises in the provision of consultancy services covering professional Risk Management and Loss Control Surveys, Loss Control Training Services and the development of Corporate Risk Management Guidelines and Standards.

Experience

Jim has over 30 years experience in Risk Management, Loss Control and Property Insurance. Services include Business Continuity Planning Services and property and machinery loss control surveys throughout Australia and the world with various assignments having been completed in South Africa, Indonesia, Malaysia, New Zealand, Philippines, Singapore, Thailand, Zimbabwe and the far eastern region of the Russian Federation.

Previously

Principal Consultant, Rowland Bell Australia Pty Ltd (1993)

Property Underwriting Manager, Kemper Insurance Co. Australia (1988-1993)

Engineering Manager, Kemper Insurance Co. Japan (1983-1987)

Field Engineer, Kemper Insurance Co. Australia (1979-1983)

Trainee Engineer, Kemper Insurance Co. USA (1977-1979)

Research Engineer (1975-1977)

Associations

Member, Society of Fire and Protection Engineers, USA, 1982

Member of the NFPA (National Fire Protection Association of the USA), 1993

Member of the Survive "The Business Community Group" 2000

Michael Dean

Director & Principal Risk Consultant, Riskaware Pty Ltd
Associate, R2A Pty Ltd

Personal Data

Bachelor of Engineering (Mechanical), The University of Melbourne, 1988

Bachelor of Applied Science (Energy Studies), Murdoch University, 2000

Corporate Member, Engineers Australia 1991 – 2001

Chairman, Professional Development Programme (Young Engineers Victoria), 1992

Committee Member, Society of Engineering Management, 1992

Chairman, Young Engineers Victoria, 1993

Committee Member, Young Engineers Australia, 1994-95.

Committee Member, Australia and New Zealand Solar Energy Society (ANZSES), WA Branch, 1998 - 1999

Profile

Michael is a qualified engineer with 15 years experience. He has worked predominantly in the field of risk engineering, either as a consultant or employed within the insurance industry. Having trained with Factory Mutual, he was for two years the Factory Mutual resident engineer for Western Australia, servicing a number of mining and mineral processing operations in Western Australia and Indonesia. His work with VRJ Risk Engineers and more recently International Risk Consultants has given him experience in safety case preparation, risk modelling and other safety and risk-related document preparation.

Experience

As Director and Principal Risk Consultant, his work with Riskaware Pty Ltd aims to capitalise on previous experience to provide consulting services in safety and risk management. The intended client base is predominantly oil & gas and mining clients in Western Australia and elsewhere as opportunity permits, however his past experience takes in a wide range of industries for which the services are also relevant. Work to date has involved hazard identification and risk assessment for vessel refuelling offshore, manual handling risk identification and development of a hazard register, preparation of drilling safety case documentation and facilitating associated hazard identification workshops. Recent experience has involved the development and delivery of risk management training workshops to workforces in PNG and Western Australia.

Previously

Senior Safety & Risk Engineer, International Risk Consultants (2001-2003)

Risk Engineering Consultant, Royal & Sun Alliance (1999-2001)

Loss Prevention Consultant, Factory Mutual (1995-1999)

Maintenance Engineer, Suspension Components Australia (1993-1995)

Risk Engineer, VRJ Risk Engineers (1992-1993)

Mechanical Engineer, Connell Wagner Pty Ltd (1991-1992)

Mechanical Engineer, State Electricity Commission of Victoria (1989-1991)

Warren Elmslie

Principal, Fire & Risk Engineering Pty Ltd

Associate, R2A Pty Ltd

Personal Data

Diploma of Engineering (Chemical), Swinburne College of Technology, 1974

Profile

Warren is a chemical engineer with extensive experience relating to the provision of independent risk engineering, risk appraisal and loss prevention engineering services. He also has experience in property and machinery breakdown loss and the storage and handling of dangerous goods.

Experience

With over 30 years experience in the industry, Warren started his career with Factory Mutual System providing loss prevention engineering and underwriting services to a large range of clients. Warren then held senior management and underwriting positions in Adelaide and Melbourne for Switzerland General Insurance Co. Ltd.

As a State Management, work involved re-establishing the general insurance section into the corporate sector and assisting clients in the implementation of Loss Control Programmes. Clients included CUB, Cadbury Schweppes, Goodyear, Adsteam and Beatrice Foods.

Previously

State Manager Victoria, Switzerland General Insurance Co. Ltd (1988-1990)

State Manager South Australia, Switzerland General Insurance Co. Ltd (1985-1988)

Loss Prevention Engineer & Underwriter, Factory Mutual System (1975-1983)

Associations

Member, Engineers Australia, 1994

Gaye Francis

Director & Consulting Engineer, R2A Pty Ltd

Personal Data

Bachelor of Engineering
(Chemical), University of Melbourne, 1997

Member, Engineers Australia
2003

Committee member Victorian
Women in Engineering (June
2009 -)

Victorian representative National
Women in Engineering
Committee 2010-2011

Organising Committee 15th
International Conference for
Women Engineers & Scientists
2011 (ICWES15)

Co-chair Women in Engineering
Victoria Committee, Feb 2007 -
June 2008

Emerging Leaders pilot program,
Engineers Australia, 2008

Committee member for the
revision of the Safety Case
Guidelines, Engineers Australia
2007.

Chairperson Drafting Committee
Safety Case Guidelines,

Profile

As a director and an experienced engineer with R2A, Gaye is involved in all aspects of the consulting practice including project management, liaison with clients, workshop facilitation and documentation, training, data analysis and modelling, report writing and presentation across a wide range of industries especially road, rail, marine, aviation, water and power.

In-house tasks include contribution to and development of the R2A text, Risk & Reliability - An Introductory Text and the R2A Method, and conference papers.

Experience

Following are some representative projects undertaken as project manager:

- Aerodrome Airspace Collision Risk Modelling for Palmerston North, Taupo, Paraparumu and Timaru, New Zealand, Avalon, Victoria and Williamtown, NSW.
- STAR Pilots Torres Straits and Great Barrier Reef pilotage review.
- Review of pilotage services for various Ports including South Port New Zealand, Geelong, Hobart, Launceston, Burnie, Devonport; Townsville, Cairns and Weipa.
- Various studies for the Tram Procurement Project.
- Various criticality, risk & reliability studies for the Interim rolling stock project.
- Due diligence review for the use of company vehicles for the Victorian Department of Sustainability & Environment.
- Various studies for the Vigilance Control & Event Recorder System (VICERS) project.
- Security of Supply and Emergency Response Taskforce following the Longford incident. This determined if there were similar, potentially catastrophic incidents within the water and wastewater industries.
- High level project vulnerability assessment at the technical feasibility stage of the Marina Coastal Expressway (MCE), Singapore project.
- Lapstone Cutting Due Diligence Review to ensure that all reasonable practicable precautions are in place to address issues associated with rock falls in the area.
-
- High level enterprise availability modelling of high voltage and emergency generation power systems at the Austin Hospital and the Mercy for Women Hospital.
- Preparation of the safety case argument for the installation of digital voice announcement and traction interlocking on RailCorp's suburban and InterCity train fleet.
- A number of risk reviews over a 4 year period for the Regional Fast Rail Project.
- High level project vulnerability assessment and subsequent design reviews for the EastLink Project.

Ross Francis

Principal & Consulting Engineer, Ross Francis Consulting Pty Ltd
Associate, R2A Pty Ltd

Personal Data

Associate Diploma in Mechanical Engineering, South Australia Institute of Technology, 1968

Member, Engineers Australia

Profile

Ross is a qualified Mechanical Engineer with more than 35 years of experience. He maintains affiliation and involvement with Engineers Australia, Appita and MESA.

Ross has also presented a number of technical papers and his career has involved various secondments for organisational development and training programs principally in the area of team development and cultural change.

Experience

Principal of Ross Francis Consulting Pty Ltd offering a comprehensive range of multidisciplinary maintenance consulting services operating throughout Australia and Internationally.

These services include:

- Conducting complete Independent Audit and Business Review of Maintenance Function Maintenance Improvement Program.
- Preparation of Equipment Based Strategic Reliability Plans
- Training of Maintenance Staff in Pro-active Modern Maintenance Technology
- Preparation of proposals, out-sourced contract maintenance, tenders, manuals and specifications, business plans, key performance indicators, maintenance improvement and project management strategies, tender assessment and selection, contract negotiation

Previously

Maintenance Manager Consulting, Siemens Ltd. (1996-1999)

Mill Maintenance Manager, Silcar Maintenance Services, Burnie Tasmania (1994-1996)

Development Manager, Albury Mill of Australian Newsprint Mills Ltd. (1984-1994)

Chief Mechanical Engineer, BHP Wyhalla Works (1972-1984)

Dan Gardam

Consultant

Associate, R2A Pty Ltd

Personal Data

Bachelor of Engineering,
Monash University

Master of Administration,
Monash University

Fellow, Engineers Australia

Profile

Dan is an experienced business manager with extensive strategic planning, business turnaround, market and industry analysis, merger & acquisition and operations management experience.

He is able to bring to an organisation an ability to work across a diverse range of disciplines at all levels of a business to successfully develop stronger commercial focus and improved performance. Dan has a demonstrated ability to lead and motivate staff and to project manage human, financial and physical resources.

Key strengths include:

- Understanding of all aspects of strategic planning from industry, market and customer analysis to strategy development to implementation.
- Experience in managing feasibility studies, assessment of mergers, acquisitions and joint ventures and market research.
- Ability to research and solve complex issues.
- Experience in business “turnarounds” and business process reengineering.
- Relationship management of business partners and external stakeholders.

Experience

Over the years, Dan highlights some key accomplishments as follows:

- Led or was a key resource for in excess of 50 business planning assignments. For example developed an acquisition strategy for a business in a weak competitive position that could achieve competitive operational scale and corporate R.O.I. targets.
- Led a small team that reviewed the performance and competitive position of a small finance company - identified specific restructuring and cost saving totalling \$3.8 million pa.
- Completed a preliminary due diligence regarding a potential 20% equity purchase in a technology start-up business.
- Successfully managed a \$2.5 million GST implementation project with a cross functional team of over 40 staff and consultants within time and budget constraints whilst achieving substantial consumer & ACCC acceptance.

Previously

Business Advisor, RACV Ltd. (1997-2002)

Principal Consultant, KPMG Consulting (1987-1997)

Michael Hall

Associate, R2A Pty Ltd

Personal Data

Bachelor of Engineering (Mechanical) (Honours), University of New South Wales, 1991

Master of Science in Aerospace and Mechanical Engineering (Reliability Engineering), University of Arizona, 1992

Passed Staff College (psc), Australian Army Command and Staff College, 1998

Master of Defence Studies, Canberra University, 1998

Certified Practicing Logistician (CPL), International Society of Logisticians (SOLE), 2004

Profile

As a senior associate with R2A, Michael is applying his theoretical and practical reliability engineering, logistics and management knowledge to further develop aspects of the R2A System of Work. He will participate in briefings and workshops on Availability Profiling and research refinements of this process, including development of software tools.

His previous involvement with traditional risk management techniques has made him wary of blind adoption of numerically based risk management, and he is a firm convert to the R2A System of Work.

Michael has reviewed driver notification procedures to be followed on failure of a single light in a signal on the Melbourne suburban rail network, and has participated in a review of the VICERS project for the Victorian Department of Transport.

Experience

During a 25 year career as an officer in The Australian Army, Michael occupied a succession of maintenance management, maintainability and engineering management, and logistic training positions. Combined with formal training and experience in Reliability and Maintainability Engineering, this has given him a strong interest and knowledge in technical, logistics and project management. Previous roles and responsibilities include:

- *Chief Engineer, Overlander Program, Defence Materiel Organisation (DMO).*
Overall responsibility for all technical issues for a \$3 billion+ program replacing all the Australian Army's non-combat wheeled vehicles. Successfully led the DMO negotiation team responsible for the technical aspects of the \$300 million+ light vehicle replacement component.
- Senior Instructor, Logistic Executive Development Course, US Army Logistics Management College. Responsible for all training delivery and assessment and student management on the US Army's senior logistic training course. Also passed SOLE examinations and qualified as a Certified Practicing Logistician.
- Manager Army Implementation, Australian Army Directorate of Technical Regulation. Major role in the development of the Australian Army Technical Regulatory Framework (TRF), and responsible for TRF implementation in all Army units. The TRF was designed to ensure the safety, fitness for service and environmental compliance of all ADF land materiel, applying the minimum necessary management processes to achieve this.
- Senior Adviser, Reliability, Availability and Maintainability, Australian Army. Responsible for Reliability and Maintainability advice to in-service maintenance management staff and organisations and to equipment acquisition organisations. Produced policy and advice applying to all, aspects of Reliability and maintainability management.

Andrew Irvine

Consulting Engineer
Associate, R2A Pty Ltd

Personal Data

BE, Chemical Engineering, University of Canterbury, Christchurch NZ, 1972

Dip Mgt Studies, N E London Polytechnic, 1979

Member, Engineers Australia

Chartered Professional Engineer

Profile

Andrew specialises in risk and reliability analysis and hazard and operability (HazOp) study leadership for onshore and offshore oil, gas, petrochemical and aviation systems. He has over 25 years technical experience in process engineering and consultant roles internationally as well as 10 years practical oil refinery experience, including supervisory and management positions. Andrew's early basic training was with BP (Aust) and Shell (UK).

Experience

Andrew has been involved in various safety case projects in Victoria for major hazard facilities including PPG Industries, Orica, Qenos and BOC. Representative past studies include:

- Safety case preparation for Cleeton and Ravenspurn offshore platforms and pipeline systems, BP Exploration – Operating Co, UK.
- Riser failure mode appraisal and consequences analysis, 5 Bass Strait platforms, Esso Australia.
- Risk Analysis, zinc smelter complex, Pasminco, Tasmania.
- Engineering and safety appraisal of Sydney Water chlorination facility at water and sewage treatment plants.
- Safety cases for onshore drilling and workover rigs, Shell/NAM, Holland.
- Safety audit and risk assessment studies at 7 locations for the Petroleum Authority of Thailand (PTT). Facilities included oil and liquefied gas storage and distribution, gas transmission, gas separation plants, onshore and offshore pipelines.
- Hazop Study Leader for various projects including Moonfish monopod conceptual design, Esso Australia, Challis FPSO upgrades (including crude storage, transfer and gas compression systems) and Challis 14 flowline installation, Metropolitan railway system tunnel cutting through a disused landfill site, MTRC Hong Kong and Chlor-alkali complex at Kwinana, WA for Nufarm, WA.
- Technical assessment and valuation of methanol production facilities, including gas production platforms, undersea pipelines, gas distribution grid, methanol plant and export jetty. Petrons/Arab-Malaysian Merchant Bank. Facilities in Sabah, Malaysia.

Previously

Senior Chemical Engineer, Veritas Technical Services - Det Norske Veritas, Australia. (1986-1988)

Various position, New Zealand Refining Company (1980-1986)

Various positions, Shell UK Oil, Shellhaven Oil Refinery (1976-1980)

Chemical Engineer, BP Australia, Kwinana Refinery WA (1974-1976)

Joe Juchniewicz

Consultant

Associate, R2A Pty Ltd

Personal Data

Bachelor of Engineering (Electrical), University of Adelaide
1971

Member, Electric Energy Society of Australia

Corresponding Member of CI-GRE Working Group 23/39 On Transmission Operations and Maintenance

Profile

Joe is an engineer and manager with over 32 years of experience in Transmission and Distribution Network utilities. His experience has been in a broad range of areas from substation protection through to management supervision of network utility work forces. This includes extensive expertise in the Asset Management field, developing whole of life management strategies of transmission line and substation assets. He has applied risk management methodologies to reset priorities for the management and maintenance of major assets.

Joe has also been involved in both Australian and International benchmarking of network assets, their maintenance and their performance in a regulated environment.

Experience

During his 30+ years with the South Australian electrical transmission authority, Joe had a number of roles including managing the Network Utility Maintenance and Construction workforces consisting of engineers, technical officers, linesmen and electrical fitters.

Representative projects include:

- Set up of initial Asset Management organization based on modern asset management principles.
- Development of initial policies and strategies as well as various Asset Management Plans.
- Establishing International Benchmarking for Operations & Maintenance Costs.
- Coordination of a technical due diligence process for asset lease that profited ElectraNet by \$65M.
- Adoption and implementation of a number of innovative practices including Risk Management Prioritisation for decision-making, Condition Monitoring, separation of asset decisions from work performance, collection of GPS data and images from helicopter fly bys and Reliability Centered Maintenance (RCM).
- Establishing of a physical security strategy for all Substations.
- Establishing of an ongoing Public Safety Campaign in relation to High Voltage Lines – Look up and Live.
- Design and application of substation and line protection systems.
- System planning for sub transmission and distribution networks.

Previously

Various positions, ElectraNet SA (1998-2005)

Various positions, ETSA (1971-1998)

Dr Marlene Kanga

Principal & Consulting Engineer, BT Risk Services
Senior Associate, R2A Pty Ltd)

Personal Data

BTech. (Hons), Chemical Engineering, Indian Institute of Technology, Bombay, 1976.

MSc., Chemical Engineering, Imperial College of Science and Technology, University of London, 1977.

DIC, Chemical Engineering and Chemical Technology, Imperial College of Science and Technology, London, 1980.

PhD, Business Administration, Macquarie University, Sydney, 1983.

Honorary Project Fellow, Major Industrial Hazards, Warren Centre for Advanced Engineering, University of Sydney, 1986

Member, Engineers Australia.

Chartered Professional Engineer.

Member, Australian Institute of Risk Management

Profile

Marlene has been providing consulting advice for over 25 years to a broad range of risk management projects including including quantitative and qualitative risk analyses, industrial and corporate risk management reviews, environmental risk analyses, natural hazard risk analysis, project risk analysis, financial and statistical risk analysis, teaching and development of risk management guideline documents.

Experience

Marlene has extensive experience in risk engineering for a wide variety of industries in Australia and Asia including oil refineries, petro-chemical plants, power stations, various manufacturing industries and infrastructure projects. Representative projects include:

- Corporate Risk Management Reviews and Risk Management Strategies for various Australian Government and NSW Government Departments and Agencies and Local Government.
- Business Risk Reviews including process mapping, risk assessment and Corporate Governance Reviews for various government agencies.
- Quantitative risk assessments for NSW Rail Infrastructure Corporation (former), Cross City Tunnel OMCS, Lane Cove Tunnel, National Transport Commission and Department of Transport NSW.
- Qualitative risk analyses for NSW State Rail Authority, Sydney Water, and Department of Health.
- Natural Hazard Risk Assessment of Earthquake and flood risks for Local Government Infrastructure assets on behalf of the Local Authority Protection Programme (LAPP) Fund run by Civic Assurance, New Zealand.
- Qualitative industrial risk evaluations for Property Risks and Liability Risks underwritten by major insurers in Australia.
- Environmental Risk Assessments for projects including truck haulage from Jabiluka to Ranger, various landfill projects, dredging in Botany Bay and Waterfall-Bomaderry Rail Line.
- Project Risk Management tasks for RAS Showground, Western Gateway Project, Community Health Information System.
- Financial & Statistical Analyses – Statistical analysis of Workers Compensation and Public Liability Claims for Managed Funds and Self insurers.
- Risk Management Guidelines for NSW Department of Planning Hazardous Industry Planning & Advisory Papers (HIPAP) on Hazard Audits and Hazard Analysis; NSW Public Works (former); NSW State Rail Authority (former), AGL.
- Risk management training for various organisations, and development and delivery of risk management in courses at the University of Technology, Sydney (as a part time Senior Lecturer), The Insurance Institute, Sydney and to numerous public and private sector organisations in Australia and Asia.

Ren Mahant

Consultant

Associate, R2A Pty Ltd

Personal Data

ME, Chemical Engineering,
University of Newcastle

BCom, Econometrics, Univer-
sity of NSW

Higher National Diploma, Me-
chanical Engineering, Institute
of Mechanical Engineers, UK &
MIEAUST

Member, Engineers Australia

Member, Australian Institute of
Management

Profile

Ren's primary business focus has been on hazard evaluation and risk assessment, hazard studies (HAZOP, FMEA, Fire Safety, Construction Safety, QRA, Design and Operational Risk Assessment). He also has extensive experience in Safety Management Systems Design and delivering training courses.

Ren is the author of various papers on the application of fuzzy logic to risk assessment and other risk analysis concepts.

Experience

With over 40 years experience in the petro-chemical industry, Ren has been involved in a variety of different roles and projects during his career. Representative projects and roles include:

- HSE Manager for site integration and general facilities, Nanhai Petrochemicals Project, China. This involved assisting the group with integrating safety in design and environmental compliance.
- Development of various hazard study procedures and subsequent database.
- Training development of Assessment of Safety Reports of Major Hazard Facilities for the Queensland Emergency Services CHEM Unit.
- Change Management and Business Continuity Plans.
- Various consulting tasks for the chemical and oil industries in technical safety using System Safety Approach, risk analysis including QRA, HazOp and hazard analysis.
- Compliance auditing.

Previously

Senior Consultant, Bechtel Australia Pty Ltd (Brisbane), (1998-2005)

Senior Consultant, ALARA Risk Services (Sydney), (1993-1998)

Senior Consultant, Industrial Risk Management Pty Ltd (Sydney), (1990-1993)

Engineering Manager, AC Hatrick Chemicals Pty Ltd (Sydney), (1982-1990)

Project Engineer and various other roles, Caltex Oil Australia Pty Ltd (Sydney), (1974-1982)

Planning Engineer and various other roles, Burmah Oil (Digboi, India), (1967-1973)

Research & Development Engineer, Mirrlees National (Stockport, UK), (1966)

Research & Development Engineer, Paxman Diesel (Colchester, UK), (1964-1966)

James Robinson

Associate, R2A Pty Ltd

Personal Data

Bachelor of Science
(Information Science), University
of Melbourne, 1970

Technology Management,
Macquarie University, 1998

People Management
Microscope, Quadrant
Consulting, 2002

Master of teaching (double
Mathematics), University of
Sydney, commenced 2004 (one
year completed)

Member, Australian Computer
Society, 1970-2004

Profile

James is university trained in Mathematics and Statistics. He has extensive experience in management analysis and programming with a proven track record of achievements in systems development and maintenance.

Experience

James has over 30 years experience in information technology and systems with roles including Systems Manager, Project Leader for International Trade Systems and Corporate Customer Exposure as well as consulting and analytic roles.

As an R2A Associate, James provides expert modeling and analytic skills for a variety of in-house and client projects.

Previously

Mathematics Tutor (2005-2007)

Various positions including Systems Manager, Westpac Banking Corporation (Aug 1986 -Dec 2003)

Various analyst positions, N.R.M.A (Jan 1975-Aug 1983)

Programmer, Caterpillar of Australia (Feb 1973-1974)

Conscript, Australian Army (Feb 1972-Jan 1973)

Post Graduate Research Student, University of Melbourne (1971)

Richard M Robinson

Director and Consulting Engineer, R2A Pty Ltd

Personal Data

BE, Mechanical Engineering,
Monash University, 1974

BA, Philosophy, University of
Melbourne, 1981

Member, Society of Fire Protec-
tion Engineers, USA, 1983

Chairman, Masters of Systems
Engineering Course Advisory
Committee, RMIT, 1987-1988

Fellow, Engineers Australia,
1992

Chairman, Victoria Division,
Engineers Australia, 1993

Chairman, Course Advisory
Committee, RMIT Pilot Centre,
Point Cook, 1994-1998

Member, Independent Blasting
Audit Team, Department of
Minerals & Energy, WA (West-
ern Mining Corporation Nickel &
Gold), 1999

Past Chairman, Engineers Me-
dia (Engineers Australia Pty
Ltd), the wholly owned publish-
ing subsidiary of the Institution
of Engineers, Australia, 2001-
2004

Director Engineers Media,
1984-2004.

Profile

Richard's primary business focus has been technical due diligence and organisational risk control, the construction of risk and reliability based models for common law and investment payback criteria, short course presentations and liability briefings, facilitating workshops and as an expert witness.

He is the principal author of *Risk & Reliability – An Introductory Text* now in it's seventh edition.

Richard presents the two-day public short course on Risk & Liability Management on behalf of Engineering Education Australia.

Experience

A career risk engineer, Richard has over 30 years experience in the industry. Richard has previously been responsible for implementing major risk and reliability studies and technical due diligence reviews for large organisations including the Office of Airspace Regulation, Civil Aviation Safety Authority, AirServices Australia, South Port NZ, Silverfern Shipping NZ, Tasports, V/Line Passenger Services, Rail Corporation NSW and the review of the performance of the Office of Gas Safety.

Recent undertakings include the development of alternate airspace collision risk models for the Civil Aviation Authority, New Zealand and the Office of Airspace Regulation Australia; strategic risk reviews for the Marina Coastal Expressway, Singapore and Tugun Bypass on the Gold Coast; due diligence reviews for rockfalls in cuttings for Railcorp NSW; hazardous atmospheres in laboratories (CSIRO); a large number of SIL (Safety Integrity Levels) allocation studies and enterprise availability studies for Melbourne Water and others. He was recently a member of the ministerial peer review panel for Eildon Reservoir.

Richard currently has a risk advisory role to the boards of the Australian Marine Pilots Association Training and Education board and Transpower, New Zealand.

Previously

Founding Director, VRJ Risk Engineers (1985 - January 1996)

Senior Risk Engineer, Gutteridge, Haskins and Davey Pty Ltd (1982-1985)

Consulting Risk Engineer and Associate, R W Browning & Associates Pty Ltd (1980-1982)

Engineer, M&M Protection Consultants, Melbourne (1977-1980)

Engineer, Factory Mutual International, Melbourne & St Louis District Office (1975-1977)

Capt. Sandy Robinson

Chief Flying Instructor and Chief Pilot, Peninsula Aero Club
Associate, R2A Pty Ltd

Personal Data

Qualifications

Airline Transport Licence,
Command Instrument Rating,
Grade 1, Instructor Rating with
Multi – engine Training, ATO &
CPL Instrument & Instructor
Rating

Flying Experience

Total Flying 10,500 hours, Total
Command 8000 hours, Multi-
turbine Command 3052 hours,
Total Instruction Time 3815
hours.

Aircraft Types Flown

Argosy turbo-prop freighter,
DC9-33 freighter (F/O), DC3
freighter, Bristol Freighter, Light
twins including: Cessna 414,
Partinavia, Britten Norman Is-
lander, Aztecs, Chieftan, etc

Single Engine aircraft including
the Cessna range, Piper range
and 1300 hours in Austers in-
structing.

Profile

A career pilot and instructor, Sandy has over 30 years experience in the Aviation industry. Sandy is currently the Chief Pilot and Chief Flying Instructor at the Peninsula Aero Club.

Experience

As an Associate with R2A, Sandy provides specialist advice on risk issues associated with airports, airspace and pilot training and practices. Sandy has worked with R2A on the development of aerodrome airspace risk model developed for the Civil Aviation Authority in New Zealand. This was subsequently adapted for Australia. He has also been involved in the recent studies for Williamstown and Avalon for the Office of Airspace Regulation of the Civil Aviation Safety Authority.

Previously

Instrument Rating Training and Instructor Rating Training, RVAC and Triple C Aviation, Moorabbin. Advanced Instruction.

Single pilot Regular Passenger Transport, King Island Airways.

DC9 First Officer, Independent Airfreighters.

Chief Pilot and Chief Flying Instructor, RMIT Flight Training, Point Cook (1996- 1997)

Acting Head of Department Pilot Theory Centre, RMIT Essendon Airport (Jun 1992-Jan 1996)

Teacher Aviation Theory, RMIT, Essendon (Aug 1991-Jun 1992)

Argosy Flight Captain, IPEC (May 1989 - Aug 1989)

Argosy Captain, IPEC Aviation (Apr 1983-May 1989)

DC9 First Officer, IPEC Aviation (Sep 1982-Apr 1983)

Argosy First Officer, IPEC Aviation (Jan 1979-Sep 1982)

Dr Frank Stoks

Director, Stoks Limited

Senior Associate, R2A Pty Ltd

Personal Data

BArch (1st class Hons)

MArch Victoria University, Wellington

PhD (Washington, USA)

Associate of the NZ Institute of Architects

Profile

Frank's business is in assisting corporations, government and commercial clients with a comprehensive range of independent and specialist corporate security, risk management and protective services advice.

Experience

With extensive security, risk management and business continuity planning experience, the following represents some of the recent works undertaken:

- Development of protective services (security) briefs for design and construction of acute mental health, youth justice, care and protection and correctional facilities.
- Risk assessments and preparation of design briefs and risk management programs for major cultural facilities in New Zealand and Australia including museums, archives, and art galleries.
- Strategic reviews of security risk management at major hospitals.
- Development of standards and guidelines for the design and management of premises, and field situations where service staff are placed at high risk from threatening, aggressive and violent customers.
- Design and review of protective arrangements for public buildings, computer centres and other highly critical operational facilities for most major banks, insurance companies, government departments and airlines in New Zealand and Australia.
- Advice to rail authorities in NSW and NZ in the application of crime prevention through environmental design (CPTED) for safe commuter facilities.
- Evaluation and planning of secure urban public place environments and preparation of public safety improvement programs through application of CPTED research pioneered by Stoks and now applied worldwide.
- Extensive work with several banks to evaluate security arrangements and develop security improvement programs.
- Preparation of auditable agreements for calling tenders and managing services provided by the security industry.
- Participation in government committees of enquiries into forensic mental health facilities, and into the security of correctional institutions. Other special assignments for government security agencies.
- Carried out numerous risk assessments for critical functions for major corporates as a prerequisite for focusing business continuity plans.

Previously

Partner, Coopers & Lybrand - Corporate Security Systems and Risk Management Group, Management Consulting Services (1986-1995).