
Curriculum Vitae - Timothy Cousins
MEI CFEI

October 2006

TIMOTHY J. COUSINS

Profile:

Tim Cousins is an Engineering Systems Failure Analyst and Disaster Recovery Consultant working primarily in the insurance industry since 1990. His work is principally divided into three different but complimentary streams.

The first stream, Engineering Systems Failure Analysis, involves technical investigations into the cause of failures within Engineering Systems principally involving electrical, electronic and computer systems. Some of these failures develop into fires.

The second stream involves the Recovery of Organizations following an incident, crisis or disaster. This second stream is further divided into two categories. The first is to simply establish the resultant nature and extent of damage, the second is to provide consulting assistance with the management of cost effective repairs and recoveries.

The third and latest stream, Risk Management for Medical Research is a specialty service using his failure analysis and disaster recovery experience as a practical base.

Tim has worked with specialist engineers and chemists over a wide range of engineering systems primarily involving electrical, electronic and computer equipment. The type of system extends from simple computer systems through process control systems to robotics, telecommunications systems, data centres and power stations. Last year he conducted failure investigations and technical audits in the Philippines, Indonesia, Malaysia and Vietnam in conjunction with managing chemical testing / investigations in Singapore and Japan.

Appointment Profile (\$): 30% from Insurers, 30% from Loss Adjusters, 30% from the Insured and 10% from Lawyers.

Overview:

Failure Analysis of Engineering Systems:

Failure analysis requires a broad system based approach in the first instance with targeted specialist expertise applied in the second.

The broader systems approach is supported and informed by:

Melbourne University; Units in Physics, Chemistry, Bio-Chemistry, Maths

La Trobe University; Statistics

Monash University; Units in Computer Science, Data Communications, Software Development and Systems Analysis and Design.

Queensland University of Technology: New Enrolment - Graduate Certificate (Electricity Supply)

ACI/EMPF (Philadelphia U.S.A.): Failure Analysis & Reliability Testing

University of Virginia, Virginia U.S.A. Course on Risk Assessment and Management held by the Centre for Risk Management for Engineering Systems.

Director, Ideation Asia Pacific Pty Ltd. 1996 - 2002

This company formed in partnership with Ideation International, a private, U.S.-based company founded in 1992 and headquartered in Southfield, Michigan. Ideation provides a structured methodology for resolving complex engineering problems. IT principal focus was the introduction of TRIZ, The Russian Theory of the Solution of Inventive Problems to Australia.

Teaching, Monash University, within a Course on Information Systems Analysis & Design at both the undergraduate and post-graduate level.

ACA Certificate in Corrosion Technology

NAFI Certified Fire and Explosion Investigator. Reg: 10797-5274

Targeted Specialist experience is supported and informed by:

Ability to design and construct computer hardware. 1985 - 1986 (before consumer computer products were readily available). This later developed into a small business completing circuit board level repairs to the VIC 20, Commodore 64, BBC Micro and Microbee Computers.

Police Breathalysers – 1990 ‘Alcotest’. (1 of 3 person engineering team) Reverse engineered (under licence) the hardware and software and rewrote the code to meet Police and Legislative guidelines within both Australia and Canada.

Electronic Hardware Development, 1991, Voice Dialler/Alarm (1 of 3 person engineering team) This involved taking over the design and construction of a project started by the Research and Development arm of IEI Australia (makers of the VESDA Smoke Alarm).

Director, Software Relations Pty Ltd. 1990 - 2001

Provided computer network problem solving services for other consultants and EDP departments within organisations. Developed numerous software projects as team leader or sole developer. The projects ranged from Rostering Systems, Alarm Monitoring Systems, Real Time Process Monitoring Systems (NSW State Rail Project) and paging systems.

Publications: *“Cleanliness and Reliability of Printed Circuit Boards – A Historical Review of Ionic Cleanliness Standards”* – 2001 IPC Review.

Disaster Recovery Consulting:

Disaster Recovery Consulting is supported and informed by:

La Trobe University – Units in Psychology, Sociology and Statistics.

Washington University, St Louis U.S.A. – School of Engineering and Applied Science. Developing and Managing a Disaster Recovery Plan, Implementing and Testing a Disaster Recovery Plan. 1995.

Director, Disaster Recovery Institute (Aust.) Pty Ltd. 1995 - 1996

Director, ExCEL Consulting Service Pty Ltd. 1993 – 1999

Director, Tim Cousins & Associates Pty Ltd. 1999 - Present

Registered Psychiatric Nurse. Three years training at Royal Park Hospital developed a range of essential skills and provided experiences that have proven to be fundamental building blocks in relation to assisting organisations recover from a disaster.

Special Note: I was promoted to Acting Charge Nurse on Graduation and given the responsibility of EDP Manager for the Hospital. Later promotions to Computer systems Officer Level III was one direct report removed from the Minister for Health.

Lecturing, Emergency Management Australia. Course in Business Continuity Management.

Membership to Professional Bodies:

EWB - Engineers without Border Australia

SSIT - Society on Social Implications of Technology (Committee Member)

IEEE - Institute of Electrical and Electronics Engineers
Member No: 80362756

EESA - Electrical Energy Society of Australia (Engineers Australia)
Member No: 3002773

NAFI - National Association of Fire Investigators
Member No: 10797
Certified Fire & Explosion Investigator Reg: 10797-5274

FPA - Fire Protection Association Australia
Member No: 9727

BCMIE – Business Continuity Management Information Exchange
(Australian Chapter of the DRIE – Disaster Recovery Information Exchange)
Member No: 0013

MPA – Managers and Professionals Association
Member No: 698488

ACA – Australian Corrosion Association
Member No: 4687

Public Lectures:

2006 Melbourne University - Department of History and Philosophy of Science
"Engineering Failures and Decision Making in Organisations"

2006 EEEVic – SSIT Lecture
"Surviving Engineering Disasters – Notes from the Field."

2006 Emergency Management Australia- Business Continuity Education & Training
"Begin with the End in Mind"

2006 New York, IEEE Society on Social Implications of Technology Conference
"When Engineering Systems Fail – The Disconnection between Continuity Plans and Organisational Behaviour." IEEE Catalog Number: 06CH37814C
ISBN 1-4244-0479-7

2006 Sydney, IIR Business Continuity Forum 2006
"Assessing why clear decision-making may be the strongest component of your BCP"

2005 Adelaide, BCMIE Information / Networking Session
"How Organisations Adapt to a Crisis - What happens when they reach the end of their contingency plan (if they have one)"

2005 Las Vegas, USA, CPM 2005 West
"IT & ET shifting the focus of BCM for greater success."

- 2004 New Zealand, New Zealand Recovery Symposium**
 “A Holistic Framework for Recovery: What happens when and what works best”
- 2004 Sydney, Continuity 2004 IIR Conference**
 “A Holistic Framework for Recovery: Shifting the Perspective of BCM to Generate Greater Success”
- 2003 Canberra, Australian Disaster Conference**
 “Patterns of Organisational Behaviour in the Recovery Phase: What Happens When and What Works Best.”
- 2002 Toronto, Canada - 12th World Conference of Disaster Management.**
 “No Plan Survives First Contact with the Enemy”
- 2001 San Francisco, Compaq Computers Corporation**
 “Ionic Contamination”
- 1999 Singapore, Insurance Industry Briefing**
 “Y2K Preparedness and Solutions”
- 1998 Sydney, Claims Discussion Group**
 “Computer Virus Infections and Protection”
- 1997 Melbourne, Claims Discussion Group**
 “Computer Virus Infections and Protection”
- 1996 Melbourne, Claims Discussion Group**
 “Recovering from a Disaster”
- 1995 Melbourne, Eastern Business Seminar**
 “Disaster Recovery Planning for Small Business”

Published Articles:

- 2006 “When Engineering Systems Fail – The Disconnection between Continuity Plans and Organisational Behaviour.” New York, IEEE Society on Social Implications of Technology Conference
 IEEE Catalog Number: 06CH37814C , ISBN 1-4244-0479-7
- 2004, “A Holistic Framework for Recovery – What happens when and what works best,” Proceedings of the NZ Recovery Symposium, Ministry of Civil Defence & Emergency Management Wellington, New Zealand, pp. 120 – 134
 ISBN 0-478-25459-8
- 2004 “The Nature of Damage” - Insurance & Risk Professional
- 2004 “Claims the Honest Mistake” - Insurance & Risk Professional
- 2003 “Software Licences - A few post loss considerations” - Insurance Review
- 2002 “Foul Weather Navigation” – Insurance & Risk Professional
- 2002 “After the Dust has Settled” - Canadian Centre for Emergency Preparedness
- 2001 “Cleanliness and Reliability of Printed Circuit Boards – A Historical Review of Ionic Cleanliness Standards” - IPC Review
- 2001 “1.56ug of Sodium Chloride – How Clean is it Really” – The Adjuster (Spring)

2001 “Sensitisation, Magnification and Codification - A Post Loss Process” – The Adjuster (November)

1999 “Y2K Considerations” - The Adjuster (March)

1997 “A future realised or lost in just one tick” - The Adjuster (July)

Regular Columns:

2001 – 2004 “Bills Workshop” – Insurance & Risk Professional

Editor:

2001 – 2003 Risk & Recovery eMagazine

2001 – Risk and recovery website.

<http://www.riskandrecoverv.com>

Teaching:

2004- Emergency Management Australia – Graduate Certificate Course

Guest Lecturer - How organizations are impacted by disasters/crises

1999-2001 - Mount Eliza Business School

Guest Lecturer - MBA Course on Project Management, Business Recovery.

1995 - 1996 Box Hill TAFE

Authored and taught the Box Hill TAFE “Train the Computer Trainer” course.

1990 – 1991 Monash University

Systems Analysis and Design at 1st Year and Post Graduate Level (2 Years)

Tertiary Education:

2006 – Queensland University of Technology – Graduate Certificate (Electricity Supply and Distribution).

This course of study is the first year of a Master of Engineering Science jointly developed by the Queensland Electricity Commission (QEC), South East Queensland Electricity Board (SEQEB) and the School of Electrical and Electronic Systems Engineering at Queensland University of Technology.

2002 – 2006 Swinburne University – Masters, Entrepreneurship and Innovation.

This course of study examines the business qualities, structures and processes in growing organisations where there are many parallels with the needs of organisations recovering from a significant loss or disaster.

1989 – 1990 Monash University – Bachelor of Science, Major in Computer Science (Not Completed) – Refer Teaching @ Monash University

Completed Subjects: Computer Science, Data Communications, Software Development and Systems Analysis and Design.

1981 – 1982 La Trobe University – Bachelor of Behavioural Science (Not Completed)

Completed Subjects: Psychology, Sociology and Statistics.

1976 – 1979 University of Melbourne – Bachelor of Science (Not Completed)

Completed Subjects: Chemistry, Maths, Calculus & Linear Algebra, Physics, Ecology, Zoology, Geology, Physiology, Cell Physiology, Histology, Microbiology, Biochemistry, Marine Chemistry, Marine Ecology, Oceanography and Coastal Geography.

Short Courses:

2006 ACI/EMPF Failure Analysis & Reliability Testing Philadelphia U.S.A.

2006 Australasian Corrosion Society
Corrosion Technology Certificate

2001 University of Virginia, Virginia U.S.A.
Risk Assessment and Management

1995 CAIT - Washington University, St Louis U.S.A.
Developing and Managing a Disaster Recovery Plan, Implementing and Testing a Disaster Recovery Plan.

1995 Box Hill TAFE
Project Management

1986 Royal Australian College of General Practitioners
Practice Management

Company Directorships:

1990 – 1999 Software Relations Pty Ltd
Software Engineering

1993 – 1999 ExCEL Consulting Services Pty Ltd
Failure Analysis of Engineering Systems and Disaster Recovery Consulting

1995 – 1997 Disaster Recovery Institute (Australia)
Disaster Recovery Training and Certification

1996 – 2002 Ideation Asia Pacific Pty Ltd
TRIZ, The Russian Theory of the Solution of Inventive Problems

1999 – Present Tim Cousins & Associates Pty Ltd.
Failure Analysis of Engineering Systems and Disaster Recovery Consulting

Recent International Work:

2005 – Philippines - Root Cause Analysis and Contamination Risk Assessment of a fire that occurred in a semiconductor manufacturing plant.

2005 – Indonesia - Root Cause Analysis of the failure after a fire of an E.C.H. Will – Paper Processing Machine.

2005 – Indonesia - Determination of the viability of recovery of a fire damaged Philips CM3000 series angiography machine.

2005 – Malaysia - Contamination Risk Assessment and a Root Cause Analysis of a contamination event in a semiconductor manufacturing plant.

2005 – Vietnam – Technical Audit of the manufacturing and quality processes of a Power Distribution Transformer Manufacturing Plant.

Key Experience

Expert Witness

Supreme Court

2005 Riverside Food –v- TXU

Claim for damages arising from a fire alleged to have arisen in the main switchboard in property belonging to TXU

2002 OPTUS –v- LEIGHTON & Ors [2002] NSWSC 327

Accidental discharge of foreign matter from a Gas Fire Suppression System contaminated a computer data centre. The total damages claim was \$29,695,816.63

These proceedings arise out of damage to premises and equipment at Rosebery (the Rosebery centre) which occurred on 3 January 1997 when contaminated water was accidentally discharged onto parts of the building and equipment stored within it (the incident). The Rosebery centre was owned by the first plaintiff, Optus Networks Pty Limited (Networks) which also owned some equipment referred to as the Tandem Equipment. The second plaintiff Optus Systems Pty Limited (Systems) owned the equipment with which most of the controversy in these proceedings was concerned. The fourth plaintiff Optus Vision Pty Limited (Vision) owned a cabinet which was the subject of a minor claim for damage arising out of the incident.

1998 SWITZERLAND INSURANCE AUSTRALIA LTD (formerly The Federation Insurance Ltd) v DUNDEAN DISTRIBUTORS PTY LTD [1998] VICSC 25

Insurance - Property damage - Damage caused to computer system and stored accounting data by "brown out" – Whether "damage" to "electronic equipment" within meaning of policy - Whether electronic equipment included, by reason of the conduct of parties, the operating system and accounting program as well as hardware - Whether "damage" also comprehended loss of stored data and cost of restoring it to hard disk.

Recent County Court/District Court

Victoria

2004 AUTRON ELECTRONICS PTY LTD –v- BOILING BILLY PUBLICATIONS PTY LTD & ORS

2004 MICHAEL WINDAHL & AUSTRALIAN HOSPITAL CARE (RINGWOOD) PTY LTD and METRON MEDICAL AUSTRALIA PTY LTD

2003 AUSTIN (AUSTRALIA) P/L ats NCR AUSTRALIA P/L

2003 ROLYAT INVESTEMENTS PTY LTD& CALTALA ats ZELJKO SABALIC

2002 KOCKUMS BULK SYSTEMS PTY LTD

South Australia

2002 Z-TEK Computer (SA GROUP) PTY LTD

New South Wales

2001 NRMA

Key Disasters

Contaminated Data Centres (Multiple Incidents 1990 onwards)

Over the years there have been a number of projects involving the contamination of Data Centres, ranging from contamination from Silicon Tetrachloride, Chlorine Gas, D-Limonene, rusty water, debris and dust from building works, fire combustion products through to water ingress as a result of; accidental discharge during the decommissioning of overhead sprinklers, accidental discharge of micro mist-fire suppression systems, burst water mains, rain water overflow of roof guttering, flooding of basement data rooms. Of these a number of solutions required an emergency relocation of the data centre.

Flooded Offices (Multiple Incidents 1990 onwards)

There have been a number of instances where normal office environments have been flooded for one reason or another, some more unusual than others. The recovery effort has concentrated on returning business functionality to the computer systems and office processes.

Fire Damaged Businesses (Multiple Incidents 1990 onwards)

Damaged by Fire is an extremely common cause of significant business interruption. We routinely attend fires and concentrate on the recovery effort and on returning business functionality to the computer systems and office processes.

2004 – Channel 7 Television Transmitter- Townsville.

This project involved a survey of the nature and extent of damage to a television transmitter caused by fire located in Townsville, Far North Queensland. Operational strategies were developed and presented to Insurers. This project was marked by a significant risk of a substantial interruption to business. The necessary risk evaluations and alternative strategies were quickly evaluated and Insurers were able to respond quickly and with a high level of comfort on the costs presented to them.

2004 - Contaminated Diesel Oil – 813,000 Litres

This project involved the stabilisation, treatment and sale of diesel oil contaminated by fire fighting foam on an Australian Navy base. The task was complicated by tight deadlines and under the watchful eye of the Navy and authorised maintenance contractors. The end result was the loss of only a small proportion of Diesel and more than a 10-fold improvement in the salvage value of the oil at the conclusion of the exercise.

2004 – Laser Cutter and Press.

This project involved determining the nature and extent of damage to a Laser Cutter and Press. The exercise involved determining the cause of the damage and therefore the most likely components to be damaged. This drove a cost effective recovery process to return the machinery to working condition.

2003 – Switchboard Fire in Hospital.

A fire in the power factor correction unit in the main switch room of a hospital contaminated the main switchboard. A recovery program that required the installation of alternative power supply to many parts of the hospital was devised to ensue uninterrupted power during the cleaning of the contaminated switchboard. The project was completed under budget and within time.

2003 – Flooded Piano Retailer.

A flood fire in a large Piano Retail reached a depth of 1.3 meters. The business had just ordered in the additional stock for Christmas. A recovery plan was developed in conjunction with the Business Owner and Loss Adjuster to recover the business. This involved establishing a triage system for the damaged pianos and organs followed by repair and a flood sale. The strategies developed were so successful that there was no subsequent business interruption claim.

2002 – Chocolate Factory – Tasmania.

The incorrect operation of a tap changer on the main distribution transformer supplying power to a chocolate factory in Tasmania caused multiple electrical faults and small fires across the length and breadth of the factory. A recovery strategy, based on our assessment of the nature and extent of damage along with a risk assessment of potential future problems was developed and the factory was returned to normal operation within 2 days.

2002 – Pasmaico Mines.

Pasmaico Mines operates on a 60-Hertz power supply. The onsite power station had been demoted to provide emergency standby power only when the mine was connected directly to the state power grid. This required a frequency converted from 50 Hertz on the grid to the 60 Hertz for the mining equipment. A small fire within the spare parts storeroom jeopardised the viability of the mine as the parts for the rectifier / inverter were held there. A review of the operational risk was undertaken and strategies developed for the ongoing provision of power in the event of a failure of the frequency converter. A decontamination plan was then developed to treat all of the affected spares.

2001 –Fire in Television Transmitting Station - Tasmania.

A fire in a television transmitting station totally destroyed all of the operating equipment. Two entities had equipment co-located on the site and the fire was thought to have arisen from new equipment recently installed by one of them. As a result the potential for litigation for one party to recover costs from the other was high. We were appointed by **BOTH** parties to establish the quantum of the claim in the event of future litigation. We also worked to establish fair and reasonable recovery strategies and costs on both sides.

1999 - Severed Sub-Sea Fibre Optic Cables.

This project involved the coordination of a team of marine engineers and telecommunication specialists in the potential recovery and repair of a critical fibre optic communication cable fibre belonging to a neighbouring country to Australia. The team were able to put together a viable commercial tender for the task. Unfortunately local politics prevailed and the task was completed by locals. The final cost for the exercise was in excess of \$3M US over and above the fixed price tender provided by our team.

1998 – 1999 Fire Damaged Power Station

This project involved the recovery of a power station that had been damaged by fire. The power station was brand new and was nearing completion when the fire occurred. The contamination from the combustion products, in conjunction with the moisture provided by the fire fighting effort, served to extend the damage well beyond the bounds of the origin of the fire to almost all of the switchgear and control electronics in the Electrical Services Building.

1998 Fire & Water Damaged Post Production Editing Suite

This project involved a fire in the neighbouring premises of a post production film editing company. Damage occurred as the result of radiant heat through the wall, water from the fire fighting effort and building debris when sections of the wall/roof and upper storey collapsed.

1995, 1996, 1998 - Fire/Water Damaged Knitting Machinery

There have been a number of projects involving the recovery of fire and water damaged knitting machines. This task is extremely difficult as the mechanical operation of the equipment is extremely sensitive to corrosion.

1994 - Local Newspaper Fire Recovery

This project involved assisting a local twice-weekly newspaper recovery from a fire, which damaged the mainframe computer and the image setting equipment. This was a massive concentrated effort with tight deadlines for the production of good copy. The paper was printed on time with only a small section on greyhound racing omitted.

1993 - Flooded Carpet Factory – 15 hectares under 2m of water for 2 weeks.

This project involved the business recovery of the factory after being submerged in 2m of water for two weeks. The factory processed raw wool into finished carpet and employed over 1000 staff. Through a rigorous program of stripping, cleaning and rebuilding the factory was returned to 30% production in 3 weeks and full production in 3 months. The estimated damage bill was reduced from over \$20M AUS to around \$8M AUS.

1993 - Fire Damaged Bowling Alley.

This project involved the recovery of a bowling alley that had been damaged by fire. The Pin spotters were severely rusted and required the whole electronics and machinery to be removed and restored. The restoration was completed by the bowling alley staff under supervision. The electronics and wiring all had to be replaced and with poor documentation and some 6,000 connections to be remade the task was not insignificant. The total damage bill was reduced from an estimated \$1.4M AUS to around \$800,000 AUS.

Key Investigations

Data Retrieval – Forensic Accounting (Multiple Incidents 1990 onwards)

There have been a number of jobs involving the recovery of accounting data and other computer documents after a fire or employee destruction. This data is often crucial evidence in the reconstruction of the financial and business events leading up to a suspicious incident.

2004 – Cause of Failure of Electronic Cruise Control – Defamation Proceedings

This investigation involved determining the cause of intermittent faults within a motor vehicle fitted with an electronic cruise control. The exercise required and examination of similar equipment, the design of test simulations and an analysis of the results obtained from tests conducted under the watchful eye of the vehicle owner. It required a court appearance to give evidence.

2004 – Personal Injury whilst using a Medical Device.

This investigation involved determining the mechanism a patient was harmed during a routine medical procedure at a physiotherapy clinic. The exercise required and examination of similar equipment, the design of test simulations and an analysis of the results. It required a court appearance to give evidence.

2004 – Review of Expert Evidence in 9 Year old Litigation. – Switchboard Fire

This review consisted of reviewing technical reports and other evidence compiled over a 9 year period. The summary and conclusions drawn were significant in determining the future direction of the case.

2003 – Survey of Fire Damage to Hydro Power Stations in Snowy Hydro Scheme.

In January 2003 fires burnt across northern Victoria and southern NSW. The firestorms damaged the 11kV reticulation ring connecting each of the Snowy Hydro Power Stations. Tumut 1 Power Station shut down and had to be restarted from Black. The project involved surveying the power stations for ash and soot contamination and determining the likelihood of ongoing problems.

2002 – Water Damaged Laser Cutter.

A water damaged laser cutter was delivered to site in Griffiths NSW with no accompanying explanation. The condition of the equipment was curious. It was determined, through analytical testing of trace elements contained in water trapped in pockets within the equipment, that it had been immersed in seawater in the Mediterranean and then washed down with a steam pressure hose using bore water. The incident was traced back to its port of origin in Italy as a result.

2001 – Failure of Bulk Powder Delivery Valve.

The failure of a pneumatic seal on a bulk powder delivery valve failed without the monitoring equipment raising an alarm. The program code was investigated and de-compiled to reveal a flawed logic as a cause for the failed alarm.

1996 - Magnetic Resonance Imaging (MRI) – Cause of Magnet Quench.

The MRI unit of a major hospital experienced a magnet quench. This is when the supercooled electromagnetic at the heart of the equipment loses its superconductivity, generates heat and boils off the liquid Nitrogen and Helium cryogens. The end result is that the magnetic field is lost.

1996 - Cause of Fire – Student Computer Classroom

There was a mysterious fire in one of the student computer classrooms within a Victorian University computer classroom. It was discovered that a computer had been used in one of the analytical laboratories, which required the computer to be well earthed. An earth connection was installed directly to the underneath of the computer casing. When the computer was moved to the computer lab the lug was superfluous. It was found that the wire, previously connected to the lug, had been torn off leaving a sharp projection. This projection then lanced a mains supply power cable causing arcing and the resultant fire.

1992 - Vacuum Furnace – Cause of Meltdown

This involved a failure in the control mechanisms of a vacuum furnace used to produce heat exchanges. The failure resulted in an over temperature condition, melting the copper based heat exchanges which in turn dissolved the Molybdenum support rails. (Molybdenum will dissolve in molten Copper).

1993 - Grain Roaster – Cause of Fire

This involved establishing a cause for a fire in a large industrial grain roaster. The grain is roasted before being supplied to a brewery for the making of the darker ales. It was discovered that the a number of chemical reactions within the grain were exothermic (heat producing) and had continued to heat already

overheated grain leading to the fire. A logical fault in the programming logic of the PLC appeared to allow this accident to happen.

Key Risk Surveys and Recovery Plans.

1995 - Medical Diagnostic Pathology Service

Determination of the cause of damage to computer and communications equipment. This was followed by a risk survey of computing facilities and an evaluation of the risk of a repeat or other failures. The result was a reduction in the premium amounts payable of \$50,000 (1995).

1994 - University Library Computer System

There was a risk survey and recovery plan developed for the computer system supporting the library system and affiliated regional libraries.

1995 - DRP for National Company

Development of a disaster recovery strategies (short and long term) and data communications infrastructure changes to facilitate Hot Site facilities.

1995 - Director of "The Disaster Recovery Institute (Australia)

In 1995 Mr Cousins travelled to St Louis in Missouri to complete a series of courses and examinations at the Disaster Recovery Institute. His intention was to return to Australia and set up an equivalent Australian based Institute. Unfortunately the incongruity between the American model and the Australian Risk Management culture meant that this concept eventually had to be (temporarily) abandoned. Nevertheless Mr Cousins was able to provide some timely advice to other Disaster Recovery Planners working on some key projects before the concept of the institute was abandoned.

1997 - Television Set – Electrical and Fire Safety

This project involved the investigation and evaluation of the fire risk of a popular low end brand of television set that was being marketed and sold through a major national retail group. The set was withdrawn from sale as a result of our investigation.

Key Electronic Engineering

1985 – 1986 Pre-IBM XT - Computer Systems – Design, Build and Repair.

A number of projects involving the construction of simple computer systems prior to the release of the IBM XT. Whilst this initially involved wire wrapping circuit boards and designing and constructing keyboard decoders it later developed into a small (hobby) business completing board level repairs to the VIC 20, Commodore 64, BBC Micro and Microbee. Computers. This was done largely for interest and pleasure.

1990 - Alcotest – Police Breathalysers

Two products, hardware and software.

The first was to reverse engineer (under licence) the hardware and software and to rewrite the code within the breathalysers to meet Police and Legislative guidelines within both Australia and Canada.

The second was a product to interrogate and download the stored data within the Alcotest Breathalyser and to present the information in a variety of statistical reports. Commissioned by DRAGAR Ltd.

1991 - IEI – Voice Dialler/Alarm

This product involved taking over the design and construction of a project started by the Research and Development arm of IEI Australia (makers of the VESDA Smoke Alarm). The project involved a security alarm that would store digitised voice messages encoded using single bit adaptive delta modulation and to dial out and play the pre-recorded messages over the telephone in response to an alarm. There were strict requirements to meet "low power mode" power drain limits, EMF radiation limits, lightning protection, limited ROM and non-volatile RAM memory space, AUSTEL approval and voice quality standards.

Commissioned by IEI Australia.

Software Development

1990 – 2002 EAN Australia – EAN Numbering Administration and Integrity Checking System

This product was commissioned by EAN Australia to maintain their Membership System, Contact Management System, Manufacturer Number Allocation System, Bar Code Scanning Validation System and Product Database. The product database contains an integrated pack dimensions and image library of the products that come in for Bar Code scanning & verification testing. ALL products on the shelves of ALL major Australian supermarket chain stores will have had their bar codes verified through this system. Commissioned by EAN Australia.

Mr Cousins has been retained by EAN Australia since 1992 for the original software development and for the ongoing enhancements and problem resolution support, data communications and for Disaster Recovery planning.

1992 – 2001 ANTPAGE – Alpha Numeric Paging System.

This product is a generic paging interface capable of being used in conjunction with any building automation or security system. It intercepts the alarm messages and automatically pages out the alarm to security guards or field service support staff based on key words embedded in the incoming alarm string. It has a moderately large installed base within University Campuses, Libraries and Hospitals. It is also currently in use protecting the boilers at Tullamarine Airport and the temperature of the fish tanks within the S.A. Dept of Fisheries and Wildlife.

1987 - Nurse Rostering System

A software rostering package designed to facilitate the editing and construction of Nurse Rosters. Commissioned by The Nursing Administration - Royal Park Hospital , Melbourne Victoria.

1988 - Student Progress Tracking System

A software product designed to track the progress of students through the Hospital's training program, including the pre-selection interviews and acceptance criteria. Commissioned by The Metropolitan and Eastern School of Psychiatric Nursing.

1998 - Menu/Recipe System

A software product designed to manage the costing, ordering and supply of ingredients for the hospital's patient menus. Commissioned by The Hospital Catering Department - Royal Park Hospital , Melbourne Victoria.

1989 - Crisis Line Staff Rostering System

A software product designed to manage the rostering of volunteer staff and the collection of statistics from the Crisis Line telephone support service. Commissioned by Crisis Line

1989 - CARE – Client Assessment and Reporting

A software product designed to assist with the assessment of clients of the Occupational Therapy Department within Royal Park Hospital
Commissioned by the Occupational Therapy Dept – Royal Park Hospital

1989 – 1994 VAXTRAK – Vaccine ordering and administration

A software product designed to manage the ordering and administration of Vaccines to local Councils and General Practitioners within Victoria.
Commissioned by Community Health Services Victoria.

1989 - VIRAL SCANNING – Prototype Viral Scanning Software

A software prototype designed in the early days of anti viral technology to identify the presence of computer viruses.

1990 – 1995 CAPS – Client Accounts and Payroll System

A software product designed to manage client invoicing and accounts as well as the staff payroll from a central rostering process.
Commissioned by At Home Pty Ltd.

1990 TPAGE - TSR based paging system.

This product was designed to be a generic, memory resident paging interface utility under the DOS operating system. It was designed to trap all output sent to the computers parallel port, by any application, scan for key words and to page out alarm messages on finding key text. This provided a generic paging functionality to any DOS based building automation and security control systems.

Commissioned by The University of South Australia.

1994 - NSW State Rail System

A software product designed to integrate with the NSW State Rail System Computer Controlled Freight Rail System. The task involved networking 17 overhead projectors, which were used to project a computer generated image of the State Rail system onto a screen in front of the operator work-stations, and poll each projector in real time for errors. The system maintained a full maintenance history including trapping and recording up to 134 of the projector variables that could be made by a remote controller. Access levels were built into the system to prevent unauthorised access to many of the projectors critical functions.

Commissioned by Trident Video Systems.

1995 - Mr ANTENNA - Job dispatching and recording system.

This product provided an unusual solution to the excessive communication costs experienced by Mr Antenna on a National basis. Jobs were dispatched nationally, via an alpha numeric pager to the Antenna installer, automatically via a direct computer link to Hutchison Telecoms. On completion of the job the installer would ring the local Hutchison paging service and page a dedicated receiver back in Melbourne with the details of the completed job. The receiver would pass the details back to the system where upon the next available job would be sent back to the Installer.

Commissioned by Mr Antenna

1994 - KODAK Australia - Job dispatching

This product provided a custom pager interface to the Kodak Australia Help Desk system resident on the in house AS400. Incoming faults reports from any of the national Kodak Service Centres would be logged and a service call paged out to the field technicians.

Commissioned by Kodak Australia.

1999 BUSTER – Voice Stress Analysis (Lie Detector) – Prototype.

This product is designed to recognise the characteristic changes in voice patterns that arise when a person is stressed such as when a person lies. The product is a working prototype.

2005 iSing – Computer Model of Organisational Dynamics.

This is a simple computer simulation of organisational behaviour designed to illustrate how the three defensive systems, Hostile-Avoidant, Directed and Dialectic Pairing can morph into one another over time. The model draws heavily from the Ising model developed in 1925 by Dr. Ernest Ising to explain ferromagnetism. This is not necessarily such a strange association. Many researchers have attempted similar formulations in the social sciences with some considerable support, although not universal.