TONIGHT'S HOST: Frankie Stevens

Frankie's professional singing career began at the age of 16 as a band member of the Australian group Peter Nelson and the Castaways. He became a household name in New Zealand as a solo artist with the number one hit single "My Elusive Dreams".

Frankie has toured extensively in New Zealand and overseas and has worked with some of the greats of the entertainment industry including Olivia Newton-John, Shirley Bassey, Milton Berle, Sammy Davis Jnr and Sir Howard Morrison.

Frankie has appeared in a number of films including the James Bond movie *Diamonds are Forever* and *The Matrix Reloaded*.

In 2005, Frankie was made a Member of the New Zealand Order of Merit.

He continues to entertain both nationally and internationally and was recently a senior judge on the television show NZ Idol.

Frankie proudly sponsored by

ONTRACK
New Zealand Railways Corporation Rere Totika

CONTENTS

Photos courtesy of Grant Sheehan

Photos courtesy of Joe Single

"The 2007 finalists, their projects and achievements serve as proof that our country's international reputation for innovation and creativity in engineering and technology is healthy and robust."

Greetings, Kia Ora, Kia Orana, Fakalofa Lahi Atu, Taloha Ni.

The New Zealand Engineering Excellence Awards were launched in 2005 to recognise the efforts of professional engineers – who can be described as heroes of the modern technological era.

Last year, New Zealand Prime Minister the Rt Hon Helen Clark referred to the New Zealand Engineering Excellence Awards as "a roll call of clever New Zealanders promoting innovation".

The 2007 finalists, their projects and achievements serve as proof that our country's international reputation for innovation and creativity in engineering and technology is healthy and robust.

These awards also play an important role on a domestic scale by showing communities that the engineering profession contributes to business, the economy and New Zealand's standard of living. It is my hope that young New Zealanders will be inspired by the accomplishments of professional engineers to follow in their footsteps.

My thanks and congratulations to the founding partners, contributing organisations and sponsors, whose support and energy has brought industry and business together for this superb event.

Congratulations to all the award winners and finalists.

No reira, tena koutou, tena koutou, kia ora, kia kaha, tena koutou katoa.

HON ANAND SATYANAND PCNZM QSO
Governor-General of New Zealand

2007 Partners

THE ELECTRICITY ENGINEERS' ASSOCIATION (EEA) is proud to be a partner of the New Zealand Engineering Excellence Awards, which showcase and recognise the finest in New Zealand engineering.

As a nation, we face increasing challenges in meeting the future infrastructure needs of New Zealand. Engineers play a pivotal role in providing innovative and sustainable solutions that balance environmental, economic and community interests, yet rarely do we publicly acknowledge the outstanding and inspirational work of our engineers. The New Zealand Engineering Excellence Awards are a superb opportunity to profile the very best in New Zealand design and celebrate projects of exceptional quality.

Congratulations to the entrants and winners of the 2007 New Zealand Engineering Excellence Awards.

GREG SKELTON
President, EEA

INGENIUM is proud to be a partner supporting the New Zealand Engineering Excellence Awards. INGENIUM members are generally involved in the public works sector of engineering. The services provided by public works infrastructure are critical in maintaining and enhancing the lifestyle and wellbeing of our communities. They underpin our economy, maintain our health and safety, and protect our environment.

Striving for excellence in all aspects of delivering these services must be encouraged and these awards serve a great purpose in showcasing and rewarding excellence. Excellence that makes service delivery more efficient and cost-effective whilst enhancing its resilience to catastrophic events must be pursued. These awards are a celebration of what has been and can be achieved. Congratulations to the entrants and to the award winners.

ASHLEY HARPER
President, INGENIUM

THE NEW ZEALAND CENTRE FOR ADVANCED ENGINEERING (CAENZ) is in the serious business of planning for New Zealand's future and is proud to be associated with the New Zealand Engineering Excellence Awards.

New Zealand engineers continue to stretch the boundaries of conventional thinking by using their engineering insight and technical understanding to create new and innovative solutions to address the most difficult of challenges.

In a world of change and increasing complexity New Zealand needs new solutions for transforming ideas into reality. Tonight is an opportunity to recognise the talents of the engineering profession and the impact the profession has on society and the economy. Its is also an opportunity to inspire the next generation of engineering leaders, innovators and thinkers.

GEORGE HOOPER
Executive Director, CAENZ

THE INSTITUTION OF PROFESSIONAL ENGINEERS NEW ZEALAND

(IPENZ), as a founding partner, is very proud to be part of the third annual New Zealand Engineering Excellence Awards.

Tonight's finalists and winners showcase the enormous engineering talent that we have right here in New Zealand. Many of these engineers and engineering organisations have succeeded on the international stage as well as at home.

Nevertheless, through its success and reliability engineering is often the forgotten profession. These awards provide New Zealand with an opportunity to recognise and commemorate the amazing contribution that the profession makes to New Zealand.

Congratulations to all finalists and award winners. Enjoy this night of celebration!

JEFF JONES
President, IPENZ

THE ASSOCIATION OF CONSULTING ENGINEERS NEW ZEALAND

(ACENZ) has great pleasure in supporting the New Zealand Engineering Excellence Awards 2007. ACENZ represents an estimated 95 per cent of the consulting engineering industry in New Zealand, and close to 100 per cent of the private-sector infrastructure design industry.

Engineers play a significant role in the development of the world we live in but their contribution is often not well recognised. This is due in part to a lack of understanding by the general public, but it is also due to the reluctance of many engineers to take centre stage.

We hope that these awards will help raise the profile of the engineering profession and renew interest in engineering-related careers.

ACENZ thanks all those who submitted entries and congratulates those who receive awards tonight.

ANDREW READ
President, ACENZ

2007 Individual Awards

This is now the third year of the New Zealand Engineering Excellence Awards and the judges are very pleased to see interest in the Individual Awards continuing to build. This is most evident in the New Zealand Young Engineer of the Year category, in terms of both the quality of the individuals entering and the overall number of entries. This must bode well for the future of the engineering profession.

Growing interest in the Award for Excellence in Engineering Journalism – the only externally-focused Individual Award – has been most rewarding. I would particularly like to thank our specialist judge for this award, Venetia Sherson, for her efforts in assisting us for the second year.

This year's entries were extremely commendable and the judges' task of selecting the chosen few you see in these pages was not an easy one. Thank you to all my fellow judges for their willing assistance in reaching unanimous decisions for each award.

It has been a privilege to judge these prestigious awards celebrating individual achievements within the engineering profession.

I wish all the winners and finalists well in their future careers.

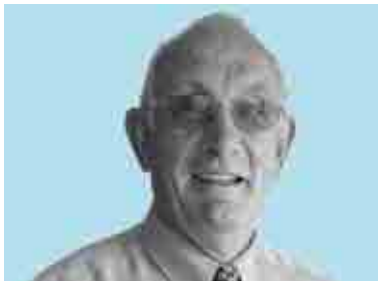
STEVE GENTRY

Convenor – Individual Awards judging panel

STEVE GENTRY DistFIPENZ

Steve is a retired consulting engineer. He was New Zealand's first and only President of the International Federation of Consulting Engineers (FIDIC) – the international body representing the consulting engineering community.

Steve is a former Director of Energy Direct, ECNZ, Meridian Energy, Whispergen, Building Research and BRANZ Ltd. He is a member of the Chartered Professional Engineers Council, and a Trustee of the IPENZ Foundation, the Red Cross Foundation and the Katherine Mansfield Fellowship Trust.



WARWICK BISHOP FIPENZ

Warwick is a self-employed director, consultant and mentor. He has a background in electrical (radio) engineering and extensive managerial and directorship experience on both sides of the Tasman, including positions as Chief Executive of IPENZ, the New Zealand Meat Producers Board, Works Corporation and AWA in both New Zealand and Australia.

Warwick maintains strong links to the engineering profession as the Executive Officer to the Chartered Professional Engineers Council, as a Trustee of the IPENZ Foundation and as the lead judge for the IPENZ Foundation Scholarships. He is a past President of the Rotary Club of Nelson.

GRETCHEN KIVELL DistFIPENZ

Gretchen worked as a chemical engineer in New Zealand and England for 18 years before moving into senior management at UNITEC in Auckland. For the last 10 years she has been head of one of the University of Otago's residential colleges in Dunedin.

Gretchen was Chair of the Auckland Branch in 1984 and President of IPENZ in 1998. She has been a Director of Telarc/Accreditation NZ, Worley Consultants and the Land Transport Safety Authority.

Gretchen is proud of her role in chairing the IPENZ 1990 committee that put 82 plaques on engineering heritage sites around the country, and also her championing of women in the profession.

LAURENCE ZWIMPFER FIPENZ

Laurence specialises in the use of information and communications technologies in education.

He currently chairs e-Learnz, and is a Trustee of both the 2020 Communications Trust and the Computer Access New Zealand Trust.

Laurence is Deputy Chair of the National Commission for UNESCO in New Zealand and chairs the Communications Sub Commission. He also chairs the 26-country Intergovernmental Council for the UNESCO Information for All Programme.

In 2006, Laurence was awarded the William Pickering Award for Engineering Leadership.

VENETIA SHERSON ONZM

Specialist Judge – Award for Excellence in Engineering Journalism

Venetia has been a reporter, editor and freelance feature writer for more than 30 years.

From 1997–2003 she was Editor of the *Waikato Times*, twice winning the Qantas Award for Editorial Writer. In 2004, she was awarded the ONZM (Officer of the New Zealand Order of Merit) for services to journalism, becoming the first female newspaper editor to receive the honour.

Venetia is now Editor-in-Residence at Waikato Institute of Technology in Hamilton, is a media trainer and conducts newsroom management training courses.

2007 Individual Awards

WILLIAM PICKERING AWARD FOR ENGINEERING LEADERSHIP 2007

Sir William Pickering was one of the world's most eminent engineers and the inaugural patron of the IPENZ Foundation. His engineering achievements as Director of the United States Jet Propulsion Laboratory have been documented extensively, but he was also a significant leader in the engineering community.

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IPENZ FOUNDATION
A CHARITABLE TRUST

IAN PARTON DistFIPENZ CPEng

The William Pickering Award for Engineering Leadership is the most prestigious of the individual awards, recognising an engineer who has acted as a role model and exceptional leader. The 2007 recipient is Ian Parton.

Ian's distinguished engineering career has spanned more than 38 years. As Managing Director of Meritec Ltd (formerly Worley Consultants) his leadership and vision transformed a small consultancy into a highly successful international professional engineering services firm. In particular, Ian was the driving force behind the establishment and success of its geotechnical division.

Ian has played a pioneering role in exporting engineering services – in 1996, Meritec received a Trade New Zealand Excellence Award as an exporter of services. He also led Trade New Zealand missions to several Asian countries and facilitated others to Eastern Europe.

Ian is now a Director on a number of governance boards, including that of Industrial Research Ltd (IRL), VT Fitzroy Ltd, Watercare Services Ltd and HTS-110 Ltd, a technology start-up company commercialising superconductor technology developed by IRL.

Ian played a formative role in developing a future vision for the Department of Civil and Environmental Engineering at the University of Auckland and chaired its inaugural advisory board. He served for 16½ years as a Trustee of the St Cuthbert's College Educational Trust and oversaw the planning and construction of major building programmes at the College.

Ian's active involvement in IPENZ culminated in his election to Distinguished Fellow in 2002 and service as President in 2004.

NEW ZEALAND ENGINEERING ENTREPRENEUR OF THE YEAR 2007

This award recognises an engineer or partnership of engineers who have created or developed a new business opportunity through entrepreneurship.

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He Wharekura-tini Kaihautu o Aotearoa

The Open Polytechnic of New Zealand

PETER WHITE-ROBINSON FIPENZ

Peter White-Robinson mortgaged everything he had to lead the management buyout of a Fitzroy subsidiary in 1991, and Fitzroy Engineering in 1992. Starting with very little, Peter made a commitment to growing the company. In 1991 Fitzroy Engineering Group Ltd was already one of New Zealand's largest heavy fabrication and multidisciplinary engineering companies with a staff of 210 and a turnover of $20 million. The company now employs over 300 staff and has a turnover of $60 million.

In 1997 Peter launched Fitzroy Yachts, which relocated to brand new, high-tech facilities in 2000. The company employs 180 staff and produces luxury superyachts up to 50 metres, adding significantly to Fitzroy Engineering Group's earnings, half of which come from overseas.

Peter has continued his entrepreneurial activity with the formation of VT Fitzroy Ltd, the partnership responsible for the Devonport Dockyard, and interests in plate profile cutters Fineline Services and Top Energy Ltd. He is a Director of the New Zealand Clean Energy Centre, which benefits from his interest in sustainable energy programmes.

A former Chairman of HERA (Heavy Engineering Research Association), Peter was a founding member of Engineering Taranaki Consortium, which aims to develop Taranaki as a centre for engineering excellence. In 2002 Peter was New Plymouth's inaugural Business Person of the Year.

2007 Individual Awards

NEW ZEALAND YOUNG ENGINEER OF THE YEAR 2007

This award recognises an engineer aged 35 years or under who has made the most excellent contribution as an engineer and leader through their professional role and community involvement. The winner receives $2,000 and the other finalists each receive $500.

Finalists are judged on their entry submission and a presentation.

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DownerEDi Works

TYRONE NEWSON MIPENZ CPEng IntPE(NZ)

Tyrone has a passion for promoting the engineering profession to Māori and Pasifika communities, and where possible working with communities in Mitimiti Hokianga (his home area) and in Tonga. He was a founding member of both SPIES (South Pacific Indigenous Engineering Students), the group that supports Māori and Pasifika students at the University of Auckland, and Whai-a-tihi, the Māori staff group at Auckland City Council.

As an undergraduate Tyrone worked with Hamilton City Council in his summer break on remedial repairs to bridge arches. During the next four years he worked for the Auckland City Council and was a key player in roading asset management information projects. In 1999 he joined GHD Ltd as a senior roading engineer and was again heavily involved in roading asset maintenance and management.

In 2000 Tyrone became Director of Northern Tree Harvesters and Kingship Properties Ltd's roading portfolio. Two years later he became its Chief Executive Officer, responsible for 1,800 hectares of forest. This involved harvesting 50,000 tonnes per annum, constructing two to five kilometres of new road each year, and looking after some 20 staff.

Since 2003 Tyrone has worked for Beca, firstly as a senior roading engineer and then as Project Manager for Auckland Airport's $10-million domestic terminal retail development and later the $80-million international terminal arrivals hall expansion.

AWARD FOR EXCELLENCE IN ENGINEERING JOURNALISM 2007

This award acknowledges the contribution of New Zealand's media to the public's understanding of the engineering industry. The Award for Excellence in Engineering Journalism is open to print, radio and television journalists, and the winner receives $5,000 in prize money.

Proudly sponsored by

IPENZ FOUNDATION
A CHARITABLE TRUST

JOHN GERRITSEN

for the article "Engineering a Future" printed in the *New Zealand Education Review* and *The New Zealand Herald*

John's article is a well-researched and balanced examination of the current workforce crisis facing engineering in New Zealand – and the challenges the education sector faces in trying to meet the needs of the country's industry.

New Zealand produces less than half the number of engineering degree graduates of other OECD countries; at diploma and certificate level, the picture is even worse. In the workplace, there is a critical shortage of skilled staff. John talks to education providers about solutions and finds it is not a simple matter of increasing the intake of students. He also canvasses the thorny issue of competition between tertiary education providers.

Readers are well served by John's thorough reporting and narrative style. The story could have been dry and uninteresting; instead it is an engaging appraisal of a subject that should be a concern to all New Zealanders.

2007 Category Awards

This year there were 58 entries spread across all eight categories. The majority were very good, and at times the judges found it hard to separate close contenders.

While some categories had fewer entries than others, this didn't make them any easier to win. The judges took the view that every finalist should be a potential winner, and they were quite prepared to declare no winner in a category where no entry reached the expected standard of excellence. This year, however, every category had a winner, and each was thoroughly deserving.

Many top-level entries were projects that involved upgrading infrastructure or existing facilities. This often presented special engineering challenges as it is frequently harder to work with an existing facility than with a green field project. The constraints are greater, and there is a strong need for ingenuity and creative solutions, as well as sensitivity to the existing situation. A prime example is the Supreme Award winner, the upgrade of Transpower's grid in the upper South Island. The judges were particularly impressed with the creative way the project team managed the geotechnical demands of a very extended site. The project also scored highly in terms of the tight control of logistics, safety and quality in a difficult environment.

Another common characteristic of this year's entries was sensitivity to the environment. This was reflected in projects ranging from minimising environmental damage in road construction, to minimising energy and water use in buildings, and using software to track environmental performance.

Although judging is hard work, reading about so much excellent engineering is both exciting and a privilege. Overall, it was pleasing to see that this year's standard of entries was equally as good as previous years. Excellent engineering continues to be truly alive and well in our country.

DAVID ELMS

Convenor – Category Awards judging panel

DAVID ELMS DistFIPENZ

David is Emeritus Professor of Civil Engineering at the University of Canterbury and a Fellow of the Royal Society of New Zealand. He is currently a consultant, specialising in risk management and issues related to complex systems. This has involved him in such areas as lifelines, transportation, environmental impact and geotechnical engineering.

David has been involved in the Prime Minister's Special Committee on the Safety of Nuclear Powered Ships, the Board of Inquiry into the Taranaki Combined Cycle Power Station and the team inquiring into the Police INCIS project.

David has a background in structural and aeronautical engineering.

PAUL SAMPSON MIPENZ CPEng IntPE(NZ)

Paul recently retired after a career in local government as District Engineer for Rotorua District Council and County Engineer for Taupo County Council.

Paul has been an executive member of INGENIUM for many years and is a life member of the organisation. He has been involved in a number of advisory committees interacting with Transit New Zealand, Transfund and the Fire Services Commission. He was Chairman of the Fire and Rescue Services Industry Training Organisation.

Paul has an engineering background in roading and small wastewater tertiary treatment plants.

PETER VERNON FIPENZ

Peter has had a long career in the electricity industry, initially in the State Hydro-electric Department, but mainly with the Wellington City Council Municipal Electricity Department, where he was Chief Executive for 17 years.

Peter is a Past President of IPENZ, and spent nine years on the Engineers Registration Board, eight as Chair. He was the Deputy Chair of the New Zealand Centre for Advanced Engineering board and was for several years a member of the New Zealand Energy Research and Development Committee.

He has been consulting in the industry since his retirement.

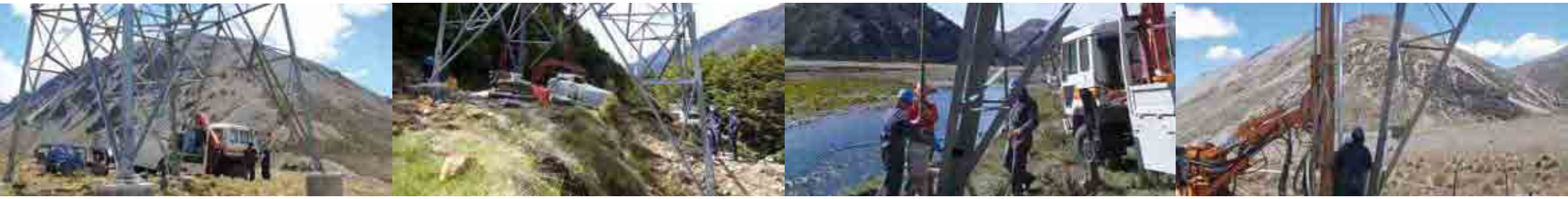
ALLAN LEAHY MIPENZ

Allan is a Director of Harrison Grierson Consultants Ltd, and leads the company's Water Resources Management Division. He has worked in the stormwater industry in Australasia for over 20 years, and has presented a number of papers at conferences.

A founding committee member of the New Zealand Water and Wastes Association's Stormwater Special Interest Group, Allan has been involved in organising a number of conferences in the field.

He is an immediate past board member of the Association of Consulting Engineers New Zealand (ACENZ) and has served on the ACENZ Awards of Excellence judging panel for a number of years.

2007 Category Awards



SUPREME AWARD FOR NEW ZEALAND ENGINEERING EXCELLENCE 2007

TRANSPOWER TOWER FOUNDATION STRENGTHENING – UPPER SOUTH ISLAND GRID UPGRADE

Construction Techniques Group Ltd

The grid upgrade project scored highly on all judging criteria, and the judges unanimously agreed it was a truly excellent example of engineering at its best.

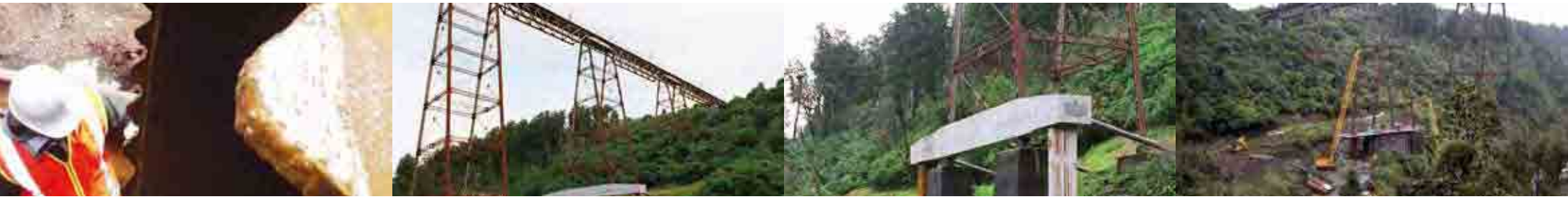
The project involved upgrading transmission tower foundations over a 450-kilometre route in the upper South Island. Much of the line followed a remote and bleak path from Hanmer to St Arnaud, passing through Island Saddle which, at 1,370 metres (or 4,500 feet), is the highest road crossing in the country.

Integrity of the power grid is vital to New Zealand's economy, and the project was clearly of significant national importance.

The judges were particularly impressed by the calibre of both the technical and logistical management over such an extended site.

Traditional approaches to providing greater uplift resistance to tower foundations involve mass concrete. Instead, the project team used four more focused techniques: grout enhancement of existing piles, self-drilling ground anchors, passive soil anchors and post-tensioned ground anchors. Some of these were not previously thought suitable for the site's soil conditions, but close co-operation and interaction between the contractor and technical experts ensured a successful outcome. Moreover, the chosen solutions caused minimum disturbance to the existing foundations and the environment.

The project team sucessfully faced the challenging problem of getting personnel, materials and equipment to remote sites efficiently, under severe time pressure and in an unforgiving environment.



BUILDING & CONSTRUCTION

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Department of Building and Housing
Te Tari Kaupapa Whare

MAKATOTE VIADUCT

ONTRACK

The North Island main trunk line is a vital link in New Zealand's economic activities. The line crosses the Makatote River on the high and slender Makatote Viaduct, but river erosion threatened the foundations of one of the viaduct's piers, creating an unacceptably high risk of catastrophic failure. The chosen remedial design solution involved transferring the pier load to two deep piles via a post-tensioned concrete cross beam.

The existing pier foundations were built into a mix of volcanic boulders and pumiceous material. The material was sensitive and could be destabilised by construction vibrations, so a more delicate oscillating pile driving system was used. A telescopic casing design was applied to deal with a troublesome aquifer.

The project team's solution used world best practice to drive the piles and displayed considerable ingenuity in overcoming problems. The project makes a significant contribution to the reputation of New Zealand engineering.

The judges considered this outstanding piece of structural engineering to be world best practice in retrofitting. They unanimously agreed that this innovative project demonstrating both technical and contractual skill resulted in a fine example of engineering excellence.

2007 Category Awards

UTILITIES, NETWORKS & AMENITIES

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NZ UTILITIES ADVISORY GROUP
Roadshare
working together

TRANSPOWER TOWER FOUNDATION STRENGTHENING – UPPER SOUTH ISLAND GRID UPGRADE

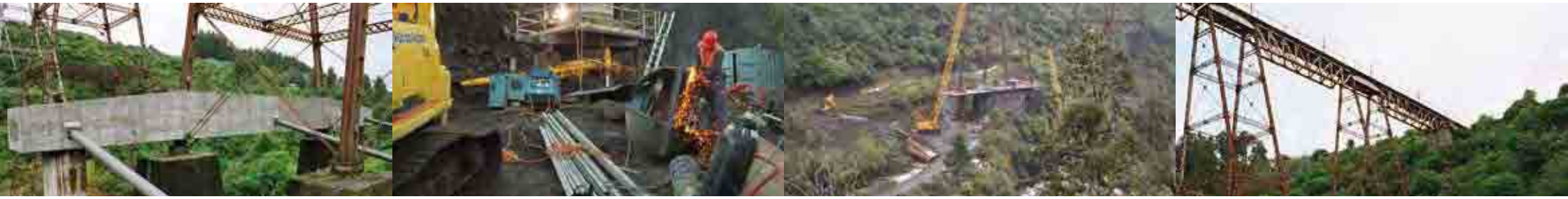
Construction Techniques Group Ltd

Severe weather conditions on several occasions in the last few years have highlighted New Zealand's need for a secure electricity transmission system.

This project involved inspecting the foundations of about 1,000 towers to ensure that two lines in the north of the South Island could withstand adverse weather. Additional conductors were added in some cases thereby changing loadings on the foundations.

A variety of strengthening techniques were developed for the range of sites involved, which were spread over 450 kilometres. Great care in planning and implementation was required to manage demanding environmental constraints, restricted communications channels and the need to work with live lines above the sites.

The knowledge and experience gained through this remarkable project will undoubtedly be used in the future to help preserve the integrity of power transmission systems here and overseas.



ROADS & TRANSPORT

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Road Controlling AUTHORITIES

MAKATOTE VIADUCT

ONTRACK

Built in 1908, Makatote Viaduct is New Zealand's third highest railway viaduct. The 80-metre-high structure was threatened by land instability and erosion around the footing of one of the central piers. As a critical component on the North Island main trunk line, it was imperative that the viaduct remained open at all times in order to prevent excessive disruption to rail traffic.

The $4.2-million solution was an innovative plan to underpin the vulnerable foundations by building two piles beside the existing concrete footing and installing a 38-metre post-tensioned concrete cross beam.

The project team faced demanding constraints as the site was located within a National Park. Another critical consideration was the possibility that construction activities could destabilise the viaduct whilst normal rail traffic continued to use it, which imposed significant logistical constraints. Difficult site access, tight environmental requirements and at times atrocious weather added to the project's challenges.

The Makatote Viaduct project is a worthy winner in this category.

2007 Category Awards

INFORMATION & COMMUNICATION TECHNOLOGY

KUPE MOBILE CONTROLLER

ONTRACK and Xworks (NZ) Ltd

An excellent example of New Zealand engineering, the Kupe Mobile Controller enables the position of rail maintenance vehicles and suburban trains to be pinpointed by train control in Wellington. It interfaces with a GPS receiver and sends information either by a cellular network or, where cellphone coverage is lost, via the ONTRACK radio network.

Installation of the controller in rail maintenance vehicles contributes greatly to the safety of track workers, but it also leads to greater operational efficiency because it enables broader time "windows" to be used for maintenance work.

The controller is a versatile piece of equipment which can interface with different types of mobile radio. It is entirely a black box, with its software configured remotely through a central server. It was developed and largely manufactured in New Zealand primarily because there was no equivalent product available off-the-shelf anywhere in the world. It was produced on time and under budget.

The controller is original, innovative and a sound and versatile piece of work which has contributed significantly to building the reputation of New Zealand engineering and improving safety for track workers.

FOOD, BIOPROCESS & CHEMICAL

Proudly sponsored by

Massey University

WATERCARE BIOGAS COGENERATION PLANT

Maunsell Ltd

The existing cogeneration plant at New Zealand's largest wastewater treatment plant in Mangere produced electricity and heat from biogas for use in the sewage treatment process but greater benefits were anticipated from an improved process design.

The upgraded plant produces up to 6.7 megawatts of electricity and 8 megawatts of hot water from methane extracted from the digestion process.

The process design for the new plant was complex and the project required considerable creativity and ingenuity.

Some of the process technologies had not previously been utilised in New Zealand or had not been used in combination on such a scale anywhere else. The use of iron sponge filters, for example, is cutting edge in world terms.

The methane production system now reliably provides cleaned biogas to the gas engines in an energy efficient way and there is minimal flaring of digester gas.

The treatment plant is now almost self sufficient in electricity, significantly reducing operating costs.

2007 Category Awards

MECHANICAL & MANUFACTURING

Proudly sponsored by

INDUSTRIAL RESEARCH LIMITED

IRL

WATERCARE BIOGAS COGENERATION PLANT

Maunsell Ltd

The new cogeneration plant at the Mangere wastewater treatment plant incorporates new mechanical innovations to reliably provide cleaned biogas to the 1.7-megawatt Jenbacher gas engines.

The mechanical design and installation of the new plant was complex and the project required considerable creativity and ingenuity. Some of the technologies deployed, such as zero-waste methane gas control, and noise and odour reduction measures, had not been implemented before in New Zealand or integrated in one plant on such a scale anywhere in the world.

The plant now produces up to 6.7 megawatts of electricity and 8 megawatts of hot water from the methane produced by the treatment plant's digestion processes. Only small amounts of electricity from external sources are now required. These outcomes have been achieved with savings in the order of $2 million per annum when compared to the original processes.

The judges noted that the client praised the high professional standards and innovative ideas applied to mechanical aspects of the project, which contributed to a high-quality installation.

ELECTRICAL & SYSTEMS

Proudly sponsored by

NHP

WAINIKASOU HYDRO POWER PROJECT, FIJI

MWH New Zealand Ltd

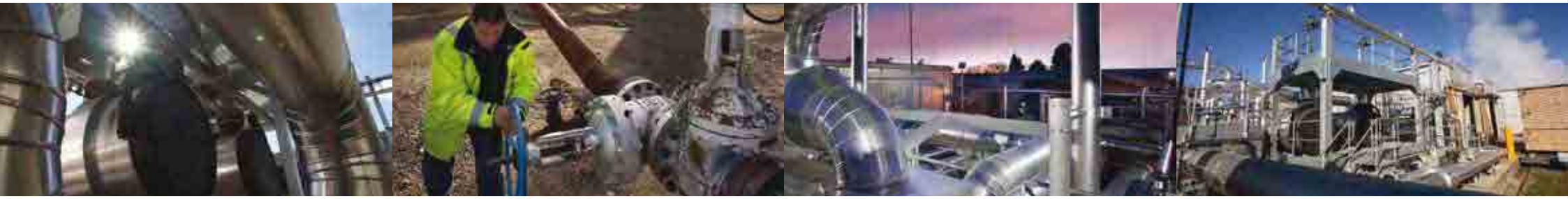
Constructed in an isolated spot on a distant island, this 6.5-megawatt hydroelectric project was the first major renewable energy project in Fiji for over 25 years.

The project team's task was to assess hydroelectric potential and, later, to integrate design and installation. Its studies recommended the use of an inflatable gate on an existing weir, construction of the power station, and construction of a 30-kilometre, 33-kilovolt transmission line to an existing substation. Design and procurement proceeded in parallel.

The facility had to be fully automated, monitored by a control centre 120 kilometres away – a common situation in New Zealand but not in Fiji where links are frequently unreliable. Access and communication problems meant that designs had to be right first time. The tropical nature of the region meant the site experienced heavy rain showers most afternoons.

The scheme, though not large by New Zealand standards, demonstrates how careful planning, design and implementation can deliver a valuable project on time and to budget, despite adverse conditions.

2007 Category Awards



SUSTAINABILITY & CLEAN TECHNOLOGY

TENON DIRECT GEOTHERMAL HEAT PROJECT

Contact Energy Ltd

Tenon Ltd's Taupo wood processing facility had previously burned up to 500 terajoules of natural gas per annum to provide heat for its nine wood-drying kilns.

In partnership with Tenon, Contact Energy Ltd designed and constructed a plant that takes a mix of geothermal steam and water to three heat exchangers at the Tenon site. The geothermal heat is then used as the sole heat source for the kilns. After use, all geothermal fluid from the heat exchangers is re-injected back into the geothermal reservoir.

While the technology employed in this project is not new or unique, the project team demonstrated a sound grasp and appropriate use of the technology.

By using a truly renewable fuel source, Tenon no longer needs to burn non-renewable fuels. This reduces the company's energy costs and prevents the release of about 24,000 tonnes of carbon dioxide emissions each year. Contact Energy also achieved an increase in plant capacity. These factors make the project a worthy winner.

2007 Finalists

NEIL COOK MIPENZ CPEng

New Zealand Young Engineer of the Year

Neil worked for an automotive development company throughout the 1990s, firstly as an apprentice, then as a mechanic and finally as its Service Manager. He completed his degree in natural resource engineering in 1999.

Opus International Consultants Ltd employed Neil firstly as a project engineer for stormwater controls then as a designer on capital works projects for North Shore City Council water services group.

In 2003 Neil moved to Wairoa to head up the Opus office and two years later he joined the Wairoa District Council as Engineering Manager and Deputy Chief Executive. More recently Neil has begun learning Te Reo Māori at Massey University.

LOUISE JONES MIPENZ

New Zealand Young Engineer of the Year

Louise graduated with a Bachelor of Engineering (civil) from Brighton University in 1995 then completed a Master of Science in infrastructure engineering at Cranfield University the following year. She then worked as a graduate, site and senior engineer before becoming Project Manager for the AMEC Black & Veatch joint venture in the United Kingdom.

In 2003 she took on a secondment to the British Army in Basra, Iraq. Since 2004 Louise has worked for MWH New Zealand Ltd as a project manager and utilities engineer – mainly in the Banks Peninsula district. She took unpaid leave to serve with UNICEF in 2006 following the Boxing Day tsunami in Indonesia.

IAIN SUTHERLAND GIPENZ

New Zealand Young Engineer of the Year

Iain graduated in 1998 with an honours degree in mechanical engineering and went on to complete his masters in engineering management. He spent the next four years in the United Kingdom, where he was involved in a wide variety of interesting design and manufacturing projects, including IT and telecommunications installations, heavy lathe machinery refurbishment, and modular training building design.

For the last three years Iain has worked for Beca Carter Hollings & Ferner Ltd as a project manager. He has worked on material recovery facilities in Auckland and Christchurch, a new feedmill, an upgraded fire system, an ecopark development and the Burwood Landfill Gas Utilisation Project.

PUSHPA JABIN

Award for Excellence in Engineering Journalism

For the programme "Medicine Mondiale" aired on TVNZ's *Asia Down Under*

Pushpa's programme describes the development and production of a device that reduces risk when administering fluids intravenously. The inventor Ray Avery is known for his work in developing countries and saw the need for such a device during his travels to Nepal.

Pushpa talks to Mr Avery, the manufacturers Adept Manufacturing, and to Sam Morgan who funded the venture. The programme also includes file footage from Nepal.

The programme introduces viewers to a safe, simple and accurate device that has the potential to save the lives of those in need in the world's developing countries.

2007 Finalists

NEW ZEALAND FIRE SERVICE NATIONAL RECRUIT TRAINING CENTRE

Sinclair Knight Merz Ltd

Building & Construction

Sustainability & Clean Technology

The New Zealand Fire Service National Recruit Training Centre contains two unusual buildings with demanding engineering requirements.

The first building is used for live fire training exercises and is entirely self-contained, eliminating smoke emissions to the atmosphere. The second building is a four-storey "stage set" where trainees practise rescue in a variety of situations. The Centre also contains an extensive treatment facility for stormwater and water used in fire training.

The many constraints and functional requirements demanded innovative engineering solutions. The Centre was completed on budget and a year ahead of schedule.

REHABILITATION & UPGRADE OF KING'S WHARF, FIJI

Beca International Consultants Ltd

The Fletcher Construction Company Ltd

Building & Construction

King's Wharf, part of the largest port facility in Fiji, was nearing its capacity, and part of its structure was deteriorating.

The project involved replacing the existing wharf deck structure with higher-capacity slabs and upgrading bridge sections connecting the wharf to the main port area. In addition, it was necessary to stabilise part of the soil backfill against seismic liquefaction, ensuring the integrity of that part of the wharf in an earthquake.

The project was completed on time and 10 per cent under budget. It contributes significantly to the international reputation of New Zealand engineering.

ROYAL NEW ZEALAND NAVY – BACKFILLING OF BULK FUEL TUNNELS

GHD Ltd

Nikau Contractors Ltd

Building & Construction

The project involved infilling disused fuel tunnels where they underlay residential property at Devonport by backfilling behind a retaining wall with 15,000m^3 of aggregate.

This was an innovative and cost-effective solution when evaluated from design, tendering, construction, community consultation and environmental perspectives. Significant cost savings were achieved over the initial design proposal incorporating a poured-concrete infill.

Quality control was particularly important in ensuring that the project team achieved a sufficient degree of compaction.

UNIVERSITY OF AUCKLAND SCHOOL OF ENGINEERING LIBRARY & STUDENT CENTRE

Sinclair Knight Merz Ltd

Building & Construction

Sustainability & Clean Technology

Changing usage in the University of Auckland's School of Engineering required new building services systems. The successful design included a number of innovative and energy-efficient solutions such as the use of heat recovery wheels, direct gas heating, an under-floor air conditioning system bringing air directly to users, and an extensive time-controlled building management system sensitive to ambient light and temperature conditions.

The result was an energy-efficient, functionally effective and aesthetically pleasing design which was completed on time.

CLANDEBOYE OUTFALL

Fonterra Co-operative Group Ltd

McConnell Dowell Constructors Ltd

Beca Carter Hollings & Ferner Ltd

Utilities, Networks & Amenities

Food, Bioprocess & Chemical

Fonterra's Clandeboye site is its second largest in New Zealand, processing 11.4 million litres of milk per day. An increasing milk supply required more processing capacity, which in turn meant more wastewater. In the past wastewater was spread over neighbouring land, but that created problems for farms already wet with winter rain.

An ocean outfall was the chosen solution, although farm irrigation remains available if required. The unique design of the pipeline, which runs under the foreshore and rises above the seabed, helped to ensure the project's success.

HAMILTON WATER TREATMENT STATION

GHD Ltd

Utilities, Networks & Amenities

State-of-the-art systems and technology were incorporated into the upgrade of Hamilton's water treatment station, which is designed to supply safe and wholesome water to the area for the next 20 years.

The plant is one of the largest in Australasia to use granular activated carbon filters and modern ultra-violet disinfection techniques. It achieved the target throughput of 106 million litres per day. The project was delivered on time and to budget.

HILLSBOROUGH PILOT SEWER REHABILITATION PROGRAMME

GHD Ltd

Utilities, Networks & Amenities

Sustainabilty & Clean Technology

This pilot rehabilitation scheme for the wastewater system in Hillsborough, Auckland, succeeded in reducing the severity and frequency of uncontrolled overflows of raw sewage during wet weather.

Measurements were made to determine the likely extents of overflow reduction that could be achieved and the costs for different levels of wastewater system rehabilitation.

The knowledge gained and techniques developed during the pilot scheme can now be applied elsewhere, with consequential health and environmental benefits.

PROJECT BLACKPOINT

Sinclair Knight Merz Ltd

Tonkin & Taylor Ltd

Downer EDI Works Ltd

Utilities, Networks & Amenities

A carefully designed combination of pipelines and a canal has enabled up to 20,000 hectares of prime North Otago farmland to be irrigated. Attempts to irrigate these extensive deposits of loess (wind-deposited soil from glacier erosion) have been made since the 1930s, but only now has a successful outcome been achieved.

This ambitious scheme reduced costs by using two pump stations to eliminate the need for larger pump motors. A number of potential problems were elegantly mitigated. These included loess erosion, severe hydraulic transients and the start-stop impact of large motors on the power supply.

SOUTHERN VALLEYS IRRIGATION SCHEME

Marlborough District Council

Fulton Hogan Ltd

Beca Carter Hollings & Ferner Ltd

Utilities, Networks & Amenities

This irrigation scheme services 370 Marlborough properties on 4,500 hectares, including viticultural farming and rural residential land. The scheme is managed by a users' group, and owned and operated by the Council.

The scheme incorporates underground pumping stations, and attention to environmental aesthetics, aquatic habitats and recreation facilities. The project was completed to budget and on time.

The increase in prime grape-producing land has boosted the wine production industry and the region as a whole.

CENTRAL MOTORWAY JUNCTION CORE AREA UPGRADE

Beca Infrastructure Ltd

The Fletcher Construction Company Ltd

Leighton Contractors Ltd

Roads & Transport

This major state highway project provides the final linkages between Auckland's Northern, Southern and North-Western Motorways.

Undertaken as a design and construct joint venture project, the challenge was to develop suitable geometrical alignments, while balancing technical requirements, costs and environmental implications.

The engineering design and construction teams' technical expertise and innovations allowed the project to be delivered within a spatially constrained environment and existing motorways.

MERCER TO LONGSWAMP EXPRESSWAY

Bloxam Burnett and Olliver Ltd

Roads & Transport

This project extended over some 12 kilometres of geotechnically complex terrain, constrained by the Waikato River and the North Island main trunk line. It incorporates five bridges, two grade-separated interchanges and four at-grade intersections.

The project team chose an alternative route that significantly reduced the geotechnical risks although it increased the geometric challenges. Successful delivery of the project required effective management of safety, cultural, environmental and commercial risk considerations.

The improved security of this strategic route was accomplished with a capital saving of $3 million.

TAUPO RACE TRACK

Connell Wagner Ltd

Roads & Transport

The $13-million Taupo Motorsports Park, complete with international race track, test track, international drag strip, and pit lane area, is one of the most comprehensive motor racing facilities in Australasia.

The geometric design and track characteristics are complex. Part of the circuit, for example, has to cater for jet drag cars travelling at 500km/hr in one direction and racing cars reaching speeds of 280km/hr in the other direction.

The project team's innovation and continual assessment of practical requirements resulted in a world-class venue delivered on time and within budget.

KUPE MOBILE CONTROLLER

ONTRACK

Xworks (NZ) Ltd

Roads & Transport

Winner: Information & Communication Technology

(see page 16)

The Kupe Mobile Controller is an integral component of a project to improve the safety and efficiency of rail operations in New Zealand.

The vehicle-mounted, mobile communications controller and GPS tracking device sends accurate information about the location of trains and track workers to ONTRACK's Train Control Centre. Knowing the location of track workers at all times saves both lives and money. The information also allows the organisation to make better use of the rail network by creating longer time periods for maintenance and improving the efficiency of train services, with associated fuel savings and increases in freight capacity.

SH1 HIHITAHI BLUFFS RECONSTRUCTION

Opus International Consultants Ltd

Roads & Transport

This area between Taihape and Waiouru had been the subject of investigations and assessments for a number of decades.

The project included two significant new highway viaducts and one bridge replacement on a new alignment that vastly improves the state highway's safety and efficiency. It was completed five months ahead of schedule and within budget.

The project area included a trout spawning river, a major scenic reserve and historically significant sites.

The design team showed substantial skill and expertise in selecting route options, managing the consenting process and consulting with numerous stakeholders.

2007 Finalists

REHABILITATION & UPGRADE OF KINGS WHARF, FIJI

Beca International Consultants Ltd

Roads & Transport

This successful project increased the loading capacity and extended the operational life of the country's largest port terminal at Suva. The project was completed on time and 10 per cent under budget.

The wharf was cost effectively strengthened using a continuous concrete slab formed on top of the original wharf surface. The project team achieved this outcome while managing a geotechnically challenging environment and keeping the terminal in operation at all times.

YJ BALLAST WAGONS

ONTRACK

Toll Rail Professional Services Group

Roads & Transport

Mechanical & Manufacturing

ONTRACK needed a new fleet of 40 high productivity wagons to manage an increasing workload and replace a fleet of 180 life-expired ballast wagons.

The YJ wagon was conceived, designed and built in New Zealand. Its efficient design incorporates best practice and meets the tight constraints of both New Zealand's geography and the railway network.

Toll New Zealand made a prototype wagon available for testing within five months. All wagons were then delivered on time and on budget.

EMEASURE (ENVIRONMENTAL MONITORING SOLUTION)

MWH New Zealand Ltd

Information & Communication Technology

Sustainabilty & Clean Technology

EMeasure is an innovative online environmental survey, database and results tracking system developed for Solid Energy Ltd. Its sophisticated survey questionnaire approach focuses on on-the-ground impacts in order to provide an annual overview of Solid Energy's environmental performance relative to a baseline and using a number of scoring indicators. Besides assisting an organisation to achieve incremental improvements, the system can also be used for forward planning.

The system is a national and possibly a global first. Its quality was assured through the use of peer reviews.

FOODSTUFFS PALMERSTON NORTH DISTRIBUTION CENTRE REFRIGERATION PLANT

Cowley Refrigeration Ltd

Hawkins Automation Ltd

Mike Odey & Associates Ltd

Food, Bioprocess & Chemical

The new refrigeration plant for Foodstuffs' chilled and frozen food distribution centre was a technically challenging project. It involved a large facility with high product throughput and a lower than typical storage temperature requirement of -28ºC in the ice cream freezer and -25ºC in the general freezer.

This was the first large freezer store project in New Zealand to use secondary refrigerant technology with environmentally friendly refrigerants (organic salt dissolved in a water solution).

The plant is automatic in operation. It is designed to minimise maintenance and maximise energy efficiency.

WEAVERS PIT REHABILITATION

Maunsell Ltd

Sustainability & Clean Technology

When Solid Energy Ltd closed mining operations at the Weavers Crossing Pit, it was left with a scarred landscape and an overburdened waste dump.

Maunsell Ltd's approach allowed the closed mine to be converted into a significant community asset at an economic price while ensuring associated engineering risks were carefully managed.

Lake Puketerini is now an important recreational facility and asset for the Huntly community and is fast becoming a new home for local bird and plant life. Its 54-hectare, 64-metre-deep lake is used for a range of recreational purposes.

2007 Partners

THE NEW ZEALAND CENTRE FOR ADVANCED ENGINEERING (CAENZ) was established in 1987 to mark 100 years of teaching engineering at the University of Canterbury. Over the years, guided by "for the public good" principles, CAENZ has played a strong knowledge-broking and facilitating role within New Zealand's engineering and technology sectors, seeking to enlarge this country's technological capability in areas of national importance.

CAENZ facilitates expert groups across a wide discipline base, and advances new ideas, methods and solutions that result from such collaborative effort. The Centre also seeks out and imports international best practice, for New Zealand's benefit.

Over the years CAENZ has established partnerships with the University of Auckland and IPENZ, and reached beyond the engineering profession to become a national centre for knowledge-making and co-operative action.

CAENZ is uniquely positioned to bring together the engineering thinking and cross-discipline approaches that can produce lasting benefits for New Zealand, now and in the future.

www.caenz.com

THE ELECTRICITY ENGINEERS' ASSOCIATION (EEA) is an independent national association representing engineers and technical staff working in the electricity supply industry. The EEA has over 300 individual members and 36 corporate members representing electricity generation, transmission and distribution networks, retailers, contractors, consultancies, and equipment and service providers.

The EEA fulfils a number of roles for its members and industry by providing leadership, advocacy, education and information on engineering, and technical and safety performance in the electricity supply industry. It provides representation to government, media, regulatory and professional bodies; facilitates and co-ordinates professional development training opportunities and resources; develops, maintains and supports national and international Standards, guidelines and best practice documents which support innovation and engineering, and technical and safety excellence; and provides an independent forum for debate on engineering, technical and safety issues affecting the industry.

www.eea.co.nz

INGENIUM is the brand name of the Association of Local Government Engineering New Zealand Incorporated. INGENIUM's vision is sustainable, safe and healthy communities through leadership in engineering and asset management. The organisation's mission is to foster the awareness, expert provision and management of community services through the disciplines of engineering and asset management.

INGENIUM represents all those who manage, maintain and operate public infrastructure in New Zealand. Public infrastructure includes roads and bridges, water supplies, sewerage schemes, stormwater systems, river control schemes, land drainage schemes, airports, and harbour facilities.

The focus of INGENIUM is on asset management and engineering for public infrastructure. It provides technology transfer opportunities for its members through branch meetings, seminars and an annual conference. INGENIUM delivers asset management services to the sector through its committees.

www.ingenium.org.nz

THE INSTITUTION OF PROFESSIONAL ENGINEERS NEW ZEALAND (IPENZ) is the national body representing professional engineers in New Zealand, and has around 10,000 Members. IPENZ has a proud history with the engineering community in New Zealand, motivated by the notion of service by a profession to wider society.

Originally formed in 1914, the Institution today represents engineers from all disciplines and is the voice of engineers through submissions to government on engineering practice. It runs a public-good programme in which it helps resolve critical national and community issues by bringing forward the considered, collective views of the engineering profession. Key policy areas include innovation and growth, education, infrastructure and energy, sustainability and environment, and impacts of technology on society.

IPENZ facilitates the setting of agreed competence and ethical standards and ensures that these standards are adhered to. The Institution also facilitates the accreditation of New Zealand engineering degrees and diplomas and works to ensure New Zealand engineering is aligned with international best practice.

www.ipenz.org.nz

THE ASSOCIATION OF CONSULTING ENGINEERS NEW ZEALAND (ACENZ) represents the consulting industry for engineering and related professionals. ACENZ currently has over 175 member firms directly employing more than 8,000 professional and technical staff. Member firms' total turnover exceeds $1 billion per annum, which translates into the development of $15–20 billion of capital plant and infrastructure. Most consulting engineering firms in New Zealand are ACENZ members.

The ACENZ vision is to be a trusted advisor to the public sector, member firms and their clients. The Association is committed to achieving "public good" outcomes in relation to its representation of member and industry interests. ACENZ also plays an informed and representative role in the development of relevant public policy, regulation and legislation, and is an important participant and contributor within the national construction industry.

ACENZ gains worldwide exposure to engineering-related matters by being a member, and active participant, in FIDIC (the International Federation of Consulting Engineers).

www.acenz.org.nz

2007 Contributing Organisations

THE IPENZ FOUNDATION is a charitable trust that promotes the engineering profession and looks after the welfare of IPENZ Members.

Specific areas of the IPENZ Foundation's work include:

- profile – finding ways to promote the engineering profession
- careers – providing scholarships to encourage secondary school students to choose careers in professional engineering
- heritage – sponsoring bronze plaques marking significant engineering projects around New Zealand
- research when appropriate
- rehabilitation – assisting IPENZ Members in financial difficulty

Working alongside IPENZ, the IPENZ Foundation has an independent impact in which all IPENZ Members can participate.

www.foundation.org.nz

THE IPENZ FOUNDATION ALSO SPONSORS THE FOLLOWING AWARDS:

William Pickering Award for Engineering Leadership 2007

Award for Excellence in Engineering Journalism 2007

THE NEW ZEALAND NATIONAL COMMITTEE OF THE INTERNATIONAL INSTITUTE OF REFRIGERATION (IIR) is a non-aligned group representing organisations with expertise in refrigeration technologies and their applications. About 60 members represent refrigeration and air-conditioning supply companies, end-user food industries, government, professional societies, research institutes and universities.

The objectives of the New Zealand National Committee are to promote and encourage scientific and industrial research on refrigeration science and technology and to disseminate the findings of such research, with regard to the particular needs of New Zealand.

The IIR's mission is the advancement of refrigeration technologies and applications for the benefit of humanity, in areas including health and well-being, safety, comfort, environmental protection, energy supply and sustainable development.

www.iifiir.org

THE NEW ZEALAND WATER AND WASTES ASSOCIATION (NZWWA) is a voluntary, not-for-profit, national organisation comprising over 1,400 corporate and individual members in New Zealand and overseas. Most corporate members come from territorial local authorities, water utilities, consultants, and suppliers and providers to the water industry. Individual members are drawn from across the water industry and water environment.

The NZWWA was founded in the late 1950s and focuses on the sustainable management and promotion of the water environment, encompassing potable, waste and storm waters. It has strong roots in the engineering profession and strong ties to IPENZ.

NZWWA serves its members and the public by promoting environmental responsibility and technical and managerial leadership in water management. The Association has a focus on the development of skills and qualifications for those already in or entering the industry, and on fostering knowledge for and about the sector.

www.nzwwa.org.nz

THE INSTITUTE OF REFRIGERATION, HEATING AND AIR-CONDITIONING ENGINEERS OF NEW ZEALAND (IRHACE) is the national organisation representing the heating, ventilation, air conditioning and refrigeration industry in New Zealand. It promotes excellence and advancement in education, research, design, manufacturing, installation and servicing technology for the benefit of all its stakeholders.

Using its branch networks and industry support, IRHACE runs technical sessions, social events, training initiatives, a conference and the highly-regarded Wallie Askew Apprentice Workskills competition.

The industry continues to face a number of challenges, in particular improving workforce skills, and it is in these areas IRHACE will continue to work for the industry and its stakeholders.

www.irhace.org.nz

THE TRANSPORTATION GROUP is a Technical Interest Group of IPENZ. Its objective is to advance the knowledge of the art, science and practice of road traffic and transportation engineering and planning. There are currently over 900 members.

The main activities of the Transportation Group are arranging continuing professional development opportunities for members, publishing a quarterly newsletter (*Roundabout*), liaising with New Zealand and overseas organisations with similar objectives, promoting technical education and research, assisting with the preparation of standard specifications and good practice guides, and providing advice to government and other organisations on issues relating to transportation.

www.ipenz.org/ipenztg

THE WASTE MANAGEMENT INSTITUTE OF NEW ZEALAND (WasteMINZ) is relevant to anyone with an interest in promoting and developing waste management practices. WasteMINZ welcomes everyone from large multinational companies and medium-sized businesses to small rural councils or one-person consultancies.

Members are drawn from all areas of the waste management world, nationally and internationally. They include collectors and disposers of waste, recyclers, engineers, scientists, environmentalists, educators, government departments, local and regional councils, and consultants.

WasteMINZ provides a neutral forum for its members and facilitates workshops, an annual conference with a trade expo, and a bimonthly magazine for members.

WasteMINZ's specialist sector groups carry out research projects, develop best-practice guides and industry standards, and share information on new technology.

Through these sector groups WasteMINZ connects members to their peers and provides an invaluable opportunity for networking, sharing knowledge and showcasing products and services.

www.wasteminz.org.nz

THE NEW ZEALAND COMPUTER SOCIETY (NZCS) is a non-profit professional body that serves the interests of professionals in the ICT sector. ICT covers a vast range of skills from development to testing, project management and general management.

With six branches nationwide, NZCS has a presence in every major centre in New Zealand. It conducts regular, informative and relevant networking events. It relies heavily on volunteers who make up the local branch committees to ensure the smooth running of branch activities.

The NZCS has around 2,000 financial members and 100 corporate partners.

www.nzcs.org.nz

THE NEW ZEALAND TIMBER DESIGN SOCIETY is a Technical Interest Group of IPENZ that aims to foster the advancement and dissemination of knowledge relating to the design of timber structures and elements.

Currently, there are approximately 300 members, including 40 overseas. A voluntary management committee, including representatives from IPENZ, the New Zealand Institute of Architects, the Structural Engineered Timber Manufacturers Association and SCION Research, promotes programmes and initiatives such as timber design seminars, the *Timber Design Journal*, the Timber Design Awards and the *Timber Design Guide* revision.

As a result of the Ministry of Agriculture and Forestry's funding programmes through the Forestry Industry Development Agenda (FIDA), the Society has worked on a new timber design software project and made a major contribution to NZ Wood, a nationwide project promoting the sustainable benefits of using wood in commercial building in New Zealand.

www.timberdesign.org.nz

THE INSTITUTION OF ENGINEERING AND TECHNOLOGY (IET) is based in the United Kingdom and was founded in the late 19th century. It has over 150,000 members worldwide, whose interests range from power to electronics and computer science.

Its primary objective is to achieve public benefit by promoting the general advancement of engineering and technology and their applications amongst members and others. The IET is a renowned publisher of technical information and magazines. It also offers a route to an internationally recognised chartered engineer qualification.

In New Zealand the IET has about 1,000 members with branches in Auckland, Wellington and Christchurch. Each branch maintains close links with industry and universities and holds regular meetings.

www.theiet.org
www.iee.org.nz

THE NEW ZEALAND SOCIETY ON LARGE DAMS (NZSOLD) was founded to advance the technology of dam engineering and support the socially and environmentally responsible development and management of water resources.

The Society's primary objectives are promoting best practice in the development, operation, maintenance and refurbishment of dams and associated impoundment throughout New Zealand; and integrating best practice into the regulatory process associated with the dam and impoundment management industry in New Zealand.

NZSOLD is concerned with technical, environmental, social, economic, legal and administrative aspects of dams and their reservoirs, and the promotion of public safety throughout the life cycle of the dam.

www.ipenz.org.nz/nzsold

2007 Sponsors

STANDARDS NEW ZEALAND

Sponsor of the Supreme Award for New Zealand Engineering Excellence

As New Zealand's leading Standards developer, Standards New Zealand is driven by one overriding goal: to contribute to the overall public good of New Zealanders. It aims to ensure New Zealanders are safer, healthier and more prosperous and that their lives are more convenient.

Standards help by making life simpler and safer, and increasing the effectiveness and reliability of many goods and services used every day. Standards New Zealand's core strengths are project management, facilitation and consensus-building skills. Partnership is fundamental to the development of Standards and Standards New Zealand works with a range of public and private sector organisations, professional associations and industry groups to develop effective Standards and Standards-based solutions.

www.standards.co.nz

THE OPEN POLYTECHNIC OF NEW ZEALAND

Sponsor of the New Zealand Engineering Entrepreneur of the Year

If the thought of sitting in a classroom following strict timetables is enough to put you off further education, then you're not alone. Each year, The Open Polytechnic of New Zealand helps over 30,000 people to get ahead with distance learning. You can gain real skills for the workplace, on your terms – from home, from work, wherever.

Involved in teaching engineering since the 1950s, The Open Polytechnic of New Zealand introduced a Bachelor of Engineering Technology in 2002. This is offered in partnership with the University of Queensland, with majors in civil, mechanical, or electrical and electronic engineering.

Open Polytechnic engineering graduates gain the knowledge and skills to be recognised as engineering technologists by IPENZ and Engineers Australia.

www.openpolytechnic.ac.nz

DOWNER EDI WORKS LTD

Sponsor of the New Zealand Young Engineer of the Year

Downer EDI Works Ltd aims to be the first choice business partner of infrastructure owners in New Zealand and the Pacific. With more than 3,000 employees nationwide, it is a major provider of services for the construction, maintenance and repair of public and private infrastructure assets. This includes roads, rail tracks, utility services (including power, gas and telecommunications), parks and reserves, water supply and wastewater treatment.

Downer EDI Works is part of the Downer EDI Group and has been helping to build New Zealand since 1870. Over the past five years it has been investing heavily in capital equipment, people, training programmes, research and development, and marketing which will enable the company to realise its vision.

www.downeredi.com

IPENZ FOUNDATION

Sponsor of the William Pickering Award for Engineering Leadership and the Award for Excellence in Engineering Journalism

The IPENZ Foundation is a charitable trust that promotes the engineering profession and looks after the welfare of IPENZ Members.

Specific areas of the IPENZ Foundation's work are finding ways to promote the engineering profession; providing scholarships to encourage secondary school students to choose careers in professional engineering; sponsoring a range of bronze plaques marking significant engineering projects around New Zealand; undertaking research when appropriate; and assisting IPENZ Members in financial difficulty.

Working alongside IPENZ, the IPENZ Foundation has an independent impact in which all IPENZ Members can participate.

www.foundation.org.nz

DEPARTMENT OF BUILDING AND HOUSING

Sponsor of the Building & Construction Award

The Department seeks to ensure that New Zealanders have access to quality homes and buildings that meet their needs and reflect the environment. It takes a big picture approach, covering all aspects of buildings and their use, from design and construction through to living and renting.

The Department's responsibilities include ensuring laws relating to the building and housing sector are effective and are complied with; providing a wide range of building-related information and guidance; assisting with dispute resolution – for example, involving building consent, weathertightness or tenancy issues; working with the sector to improve professional standards, skills and behaviour; and providing policy advice to the Government.

www.dbh.govt.nz

NEW ZEALAND UTILITIES ADVISORY GROUP

Sponsor of the Utilities, Networks & Amenities Award

The New Zealand Utilities Advisory Group (NZUAG) is a joint consultative group including network utility operators and territorial authorities, Transit New Zealand and industry bodies. It was formed to consider issues relating to utilities in the road corridor, and has produced several national best-practice guidelines and tools for all aspects of road corridor management.

This year, NZUAG is managing the development of a national code to cover all aspects of working in road and rail corridors, including working in partnership, planning and corridor management, working underground and above ground, and safety requirements. Representatives of all member sectors are participating in the project.

www.nzuag.org.nz

ROAD CONTROLLING AUTHORITIES FORUM

Sponsor of the Roads & Transport Award

The Road Controlling Authorities Forum was initiated in 1996 as a voluntary group that meets to share information, acts as a sounding board on potential issues, and offers peer support and networking opportunities to the industry. The Forum also commissions working groups to report on common interest issues.

The Forum's goal is to be the acknowledged source of industry research and development of guidelines relating to asset ownership. The Forum also aims to achieve a nationally consistent and robust method of performance measurement which drives industry investment decisions, and be recognised by the industry as the primary peer support and networking forum for asset owners.

www.rcaforum.org.nz

KORDIA

Sponsor of the Information & Communication Technology Award

Kordia is an experienced trans-Tasman business that is fast becoming one of the region's leading providers of customised broadcast and telecommunications networks, network services and converged solutions.

New Zealand-owned, Kordia is a company with the scale, resource, partnerships and infrastructure to embrace the advancements in technology, media and telecommunications.

Kordia owns the third largest telecommunications network in New Zealand and is the major provider of television and radio broadcast facilities. The acquisition of Orcon this year means that Kordia is now more closely connected to the consumer in the telco space, and well-poised to better serve a converging market with an enhanced range of products and services.

www.kordiasolutions.com

MASSEY UNIVERSITY

Sponsor of the Food, Bioprocess & Chemical Award

Massey University's School of Engineering and Technology has a 40-year history of pushing the boundaries of engineering research and education, specialising in providing engineering solutions to real-world problems.

Ranked in the top three engineering schools in New Zealand, Massey's approach to engineering looks to the future. It has led the way with the establishment of disciplines including mechatronics and multi-media systems engineering, combining the latest technology, computing and information systems with sound engineering and technology skills to produce a multidisciplinary package designed to prepare graduates to meet the demands of specific industries.

A comprehensive programme of accredited majors is offered across the University's three campuses in Auckland, Palmerston North and Wellington, including New Zealand's flagship research and teaching programmes servicing the needs of New Zealand's food and processing industries. It is committed to growing New Zealand's economy through research and building human capability.

www.massey.ac.nz

INDUSTRIAL RESEARCH LTD

Sponsor of the Mechanical & Manufacturing Award

Industrial Research Ltd (IRL) is a Crown Research Institute providing research, science and advanced technology support to industry to enhance performance and add value to the New Zealand economy. Core to the company is innovation based on world-class science and engineering. IRL research serves a range of industry sectors with an emphasis on the manufacturing, processing, biopharmaceuticals, medical and energy industries.

IRL's work with industry covers research and development (R&D), pilot-scale production, consultancy services, commercialisation of technology, testing and calibration, sales and licensing. Its clientele covers a range of businesses from small companies with bright ideas to some of the largest New Zealand companies needing R&D support to succeed in the highly competitive international marketplace.

www.irl.cri.nz

2007 Sponsors

NHP ELECTRICAL ENGINEERING PRODUCTS (NZ) LTD

Sponsor of the Electrical & Systems Award

NHP specialises in industrial switchgear and automation, bringing together leading products, systems and solutions from across four key electrotechnology sectors – motor control, power distribution, control and panel, and automation and safety.

With an extensive Australasian sales and service network, NHP offers the New Zealand market a wide range of technical electrical equipment, supported by substantial stocks and dedicated customer service. NHP's New Zealand offices are located in Auckland and Christchurch.

NHP's commitment to quality and service continues today and in the future and underpins its primary focus – passion for the customer.

www.nhp-nz.com

THE INSTITUTION OF ENGINEERING AND TECHNOLOGY

Sponsor of the Sustainability & Clean Technology Award

The Institution of Engineering and Technology (IET) is based in the United Kingdom and was established in the late 19th century. It has over 150,000 members worldwide, whose interests include power, communications, electronics and computer science disciplines. Its primary objective is to achieve public benefit by promoting the general advancement of engineering and technology and their applications amongst members and others.

The IET is a renowned publisher of technical information and magazines. It also offers a route to an internationally recognised chartered engineer qualification. In New Zealand the IET has about 1,000 members with branches in Auckland, Wellington and Christchurch. Each branch maintains close links with industry and universities and holds regular local meetings.

www.iee.org.nz

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ONTRACK is the backbone of the New Zealand railway network. On behalf of the Government, it owns, maintains and manages the 4,000 kilometres of rail infrastructure stretching from Northland to Bluff.

ONTRACK provides New Zealand rail operators with safe and controlled access to the national rail network. Operators include Toll NZ, Auckland local authorities that control the Auckland commuter rail business (operated on their behalf by Veolia), and heritage rail operators.

ONTRACK maintains, renews and upgrades the rail network, provides advice on rail and related matters to the Crown and provides public-good services such as educational programmes and infrastructure improvements for level crossing safety. ONTRACK also manages 19,000 hectares of land and leases associated with the rail corridor.

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