

IPENZ ENGINEERING UPDATE November 2010



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Management/Leadership/Strategic Planning/Recruitment/Training and Development/Project Management/Corporate Responsibility

√IPENZ 41/01 Unleashing the power of marketing.

Comstock, B., Gulati, R and Liguori, S. Harvard Business Review, Volume 88, Issue 10 (October 2010) Pages 90-98.

The article examines marketing management at General Electric Co. (GE). The transformation of the company's marketing department into an integral part of product development, product management and strategic planning after years of relative neglect is considered. The role of Chief Executive Officer Jeff Immelt in initiating and overseeing that change is discussed. The creation of a new marketing strategy by the marketing department, one focused on the role of customer relations in product development, is considered. The creation of a set of basic principles and operating procedures for GE's marketing unit is discussed.

√IPENZ 41/02 Do technology strategies matter? A comparison of two electrical engineering corporations, 1988-1998. Bergek, A. et al. Technology Analysis & Strategic Management, Volume 21, Issue 4 (May 2009) Pages 445-470.

Competitive advantage can be reaped from innovation when the technology activities of a firm match the technology strategy. But how do such strategies impact on a firm's activities and financial performance? This paper compares two leaders in the electrical engineering industry, ABB and General Electric, and shows that significant differences in performance can be related to differences in technology strategies (based on statements in annual reports) and technology activities (based on patenting) and their degree of alignment.



√IPENZ 41/03 Best practices for integrating the concurrent engineering environment into multipartner project management.

Karlsson, M. Journal of Construction Engineering & Management, Volume 134, Issue 4 (April 2008) Pages 289-299.

A concurrent engineering (CE) environment based on the use of internet, email and other technologies enables collaboration in the building process. However evaluating the benefits of using CE tools can be difficult and complicated. The "project management and organization in the concurrent engineering environment" (ProCE) project presented in this paper developed a measuring model, sought to measure both quantitative and qualitative benefits of using the CE environment in construction design and project management, and outlined guidelines for best practice based on four case studies.

√IPENZ 41/04 Making 1+1=3 Balfour Beatty and Parsons Brinkerhoff join forces. ENR (30 August 2010) Pages 27-30.

√IPENZ 41/05 Childhood engineers.

Thilmany, J. Mechanical Engineering, Volume 132, Issue 9 (September 2010) Pages 46-49.

The article discusses the challenges to foster interest among children to become engineers in future.

√**IPENZ 41/06 Leadership grid between concern for people and intuition.**

Singh, A. Leadership & Management in Engineering, Volume 9, Issue 2 (April 2009) Pages 71-82.
It can be said that intuition is an established element in human psychology and thinking. This paper deals with the prevalence and exercise of intuition in a public construction organisation. It finds that most engineers believe in the use of intuition, trust and apply it in their work. While no correlation between the use of intuition and concern for people could be discovered, it was found that project engineers and senior resident engineers/area engineers shared a general perception of intuition and utilised it in their decision-making processes. The surveyed engineers displayed a high interest in their colleagues' welfare but work mainly for their own personal gains. They are highly concerned for public safety and health and corruption affronts them. In addition they claim a high degree of loyalty to their organisation. Scores for the surveyed engineers tend to represent practicality and reasonability, which points to sound psychological health for organisational management. It is recommended that during training greater emphasis is placed on the use of intuition in decision making and organisation design.

√**IPENZ 41/07 Don't take performance for granted.**

Stone, R. D. Industrial Management, Volume 51, Issue 6 (November 2009) Pages 15-19.
Today's dynamic work environment means preparing staff to perform to changing requirements. While resources are used to influence behavioural change, the business results are often not as good as anticipated. A 21st century performance-centred framework can assist in analysing performance problems, determining the reasons for deficient performance and identifying solutions.

√**IPENZ 41/08 Report sees positive future for engineers, scientists.**

Reid, R. L. Civil Engineering, Volume 80, Issue 5 (May 2010) Pages 26-28.
The article reports on the positive employment future of scientists and engineers (S&E) in the U.S. The report released by the National Science Foundation entitled "Science and Engineering Indicators 2010" reveals the only small portion of the S&E are unemployed. It also mentions the forecast of the Bureau of Labor Statistics regarding the double increase of S&E occupations in the country by 2016.

√**IPENZ 41/09 Futures thinking for engineering and Engineers Australia's continuing professional development process.**

Kerr, I. R. Australian Journal of Engineering Education, Volume 16, Issue 1 (2010) Pages 13-20.
This paper was first presented at the 90th Anniversary Celebration of the Formation of Engineers Australia and outlines the qualities and competencies of the 21st century professional engineer, including the educational, professional and industrial infrastructure that is required in order to produce that engineer. The ideal professional engineer is perceived as having world-class technical expertise and being able to operate in complex business contexts. This requires access to best-practice educational and industrial training.

√**IPENZ 41/10 Constructing integrated project delivery.**

Furst, P. Industrial Management, Volume 52 Issue 4 (July 2010) Pages 19-24.

√**IPENZ 41/11 Integrated project delivery booster ignore man flashing red lights.**

ENR (10 May 2010) Pages 22-23.

Article outlines views of skeptics of integrated project delivery.

√**IPENZ 41/12 A system for selecting a project delivery method in US airports.**

Touran, A., Molenaar, K. R., Gransberg, D. D. Journal of Airport Management, Volume 4, Issue 4 (July/September 2010) Pages 360-373.

The most widespread project delivery methods for airport capital projects are described in this paper and a methodology for choosing the most appropriate delivery method to suit a particular set of conditions is presented. The included methods are design-bid-build, construction manager-at-risk and design build. 19 relevant factors that can impact the choice of project delivery method are identified.

√**IPENZ 41/13 Project manager leadership role in improving project performance.**

Anantatmula, V. S. Engineering Management Journal, Volume 22, Issue 1 (March 2010) Pages 13-22.

The significance of the project manager's role as manager is underlined by the research studies highlighting that many projects do not succeed. To meet the challenges of today's global economy, the leadership role of the manager is vital in motivating people and creating a successful working environment. This paper considers significant people-related aspects of project performance.

√**IPENZ 41/14 How reputation affects knowledge sharing among colleagues.**

Hébert, L. MIT Sloan Management Review, Volume 51, Issue 2 (Winter 2010) Pages 79-81.

How does reputation affect an R&D worker's decision whether or not to pass knowledge on to a colleague? Having surveyed over 200 scientists in 63 pharmaceutical companies, the authors found that information is not always shared even among colleagues in the same organisation. The decision to share or not seems to be based on how a potential knowledge source assesses the reputation of a knowledge seeker. Various factors affect the assessment, including past interaction and proximity. Sharing knowledge is less likely when the knowledge seeker was already in debt to the potential knowledge source.

√**IPENZ 41/15 Implementing component reuse strategy in complex products environments.**

Oshri, I., Newell, S. and Pan, S. L. Communications of the ACM, Volume 50, Issue 12 (December 2007) Pages 63-67.

In this case study, a firm that manufactures and markets customised electronic systems decided to decrease research and development costs through the reuse of software and hardware components. Tensions arose as engineers held that reuse diminished their professional scope and management did not understand that over time this strategy reduced engineers' understanding of the reused components.

√**IPENZ 41/16 Infrastructure investors are willing to pound the pavement : New public-private deals are sweeping across the U.S.**

ENR (19 July 2010) Pages 68-71.

√**IPENZ 41/17 A private consortium is fast-tracking a beltway of billions.**

ENR (19 July 2010) Pages 64-66.

√**IPENZ 41/18 The fluctuating political appeal of water engineering in Australia.**

Cruse, L. R., O'Keefe, S. M. and Dollery, B. *Water Alternatives*, Volume 2, Issue 3 (2009) Pages 440-447.

Australia's history with water engineering, like that of many countries, is a mixed one. It began with the engineer as 'king' when the harnessing of water was a vehicle for settling harsh inland areas. While this created wealth and prosperity, it was realised by the 1960s that this approach had its problems. In the 1970s evidence of environmental degradation was growing while the 1980s trend towards fiscal responsibility led to even more scrutiny of the engineering approach. From the early 1990s this resulted in a series of water policy reforms, which initially promoted greater use of economic incentives and concentrated attention on water management's ecological impacts. This temporarily transformed the status of the engineer from 'king' to 'servant', but the political challenges of dealing both with the economics and ecology of water soon helped the return to engineering solutions. These historical events are traced in this paper, which has a special focus on the politically problematic issues that appear when it is attempted to reallocate water in a basin that is fully allocated.

√**IPENZ 41/19 An evolutionary view: What followers want from their leaders.**

Winsborough, D., Kaiser, R. B. and Hogan, R. *Leadership in Action*, Volume 29, Issue 3 (July/August 2009) Pages 8-11.

√**IPENZ 41/20 Great achievements & grand challenges.**

Petroski, H. *Civil Engineering*, Volume 80, Issue 2 (February 2010) Pages 48-57.

An excerpt from the book "The Essential Engineer: Why Science Alone Will Not Solve Our Global Problems," by Henry Petroski is presented.

√**IPENZ 41/21 Top ten scheduling mistakes and how to prevent them.**

Lukas, J. *AACE International Transactions* (2009) Pages PS.10.1-PS.10.12.

√**IPENZ 41/22 How to start an entrepreneurial revolution**

Isenberg, D. J. *Harvard Business Review*, Volume 88, Issue 6 (June 2010) Pages 40-50.

The article refers to entrepreneurial or entrepreneurship ecosystems, environmental scanning, and the public and private sectors' roles in business and economic development. The topics include the ecosystem's nine principles for creation such as do not over-engineer business or industrial clusters but do reform regulatory frameworks. Examples of successful entrepreneurial ecosystems are noted from the countries of Rwanda and Taiwan as well as in the city of Medellin, Colombia. Babson College's entrepreneurship ecosystem project is noted. Questions are provided which can help evaluate the health of ecosystems. The so-called law of small numbers is mentioned.

√**IPENZ 41/23 The prize predicament.**

Buckley, B. *ENR* (16 August 2010) Pages 24-28.

Looks at U.S. incentive programs to encourage safety at construction sites.

√IPENZ 41/24 A framework for the assessment of an organisation's innovation excellence.

Dervitsiotis, K. N. Total Quality Management & Business Excellence, Volume 21, Issue 9 (2010) Pages 903-918.

Innovation is often seen as the key driver of competitiveness and innovation management is a powerful tool to engender a company's adaption to new conditions, especially in a global economy where the rate of change is growing. Nevertheless, the results from innovation investment are not always satisfying. The innovation challenge requires an organisations's leadership to clearly describe the innovation system and process and employ sensible quality and innovation management principles. This means periodically assessing not only innovation outputs but also the inputs. This paper looks at an integrated framework for systematically assessing innovation.

**Technical Aspects of Engineering
Abstracts for most available on request.****√IPENZ 41/25 Tension stiffening in concrete beams. Part 1: FE analysis.**

Ng, P.L., Lam, J. Y. K., and Kwan, A. K. H. Proceedings of the Institution of Civil Engineers: Structures and Buildings, Volume 163, Issue SB1 (February 2010) Pages 19-28.

√IPENZ 41/26 Tension stiffening in concrete beams. Part 2: member analysis.

Ng, P.L., Lam, J. Y. K., and Kwan, A. K. H. Proceedings of the Institution of Civil Engineers: Structures and Buildings, Volume 163, Issue SB1 (February 2010) Pages 29-38.

√IPENZ 41/27 A new angle.

Schober, H., Werwigk, M. and Kürschner, K. Civil Engineering, Volume 80, Issue 6 (June 2010) Pages 46-53.

Article about the design of an office and laboratory campus in Basel, Switzerland which has a steel and plate façade.

√IPENZ 41/28 Strata high rise for homes.

Walton, M. The Structural Engineer, Volume 88 Issue 13 (6 July 2010) Pages 18-21.
Design of a distinctive residential tower on a tight site with wind turbines at the top.

√IPENZ 41/29 Cementation liquefaction remediation for existing buildings.

Mitrani, H. and Madabhushi, S. P. G. Proceedings of the Institution of Civil Engineers: Ground Improvement, Volume 163, Issue GI2 (May 2010) Pages 81-94.

√IPENZ 41/30 Interlocking stabilised soil blocks : Appropriate technology that doesn't cost the earth.

The Structural Engineer, Volume 88 Issue 15/16 (3 August 2010) Pages 25-29.

√**IPENZ 41/31 High-recycled content concrete for energy efficient building construction.**

Soroushian, P and Nassar, R. Journal of Solid Waste Technology & Management, Volume 36 Issue 3 (August 2010) Pages 143-152.

√**IPENZ 41/32 Review of intelligent building construction: A passive solar architecture approach.**

Ralegaonka, R and Gupta, R. Renewable and Sustainable Energy Reviews, Volume 14, Issue 8 (October 2010) Pages 2238-2242.

√**IPENZ 41/33 Application of tyre bales to slope failure repair.**

Winter, M. G., Williammee, R. and Prikryl, W. Proceedings of the Institution of Civil Engineers: Engineering Sustainability, Volume 162, Issue ES3 (September 2009) Pages 145-153.

√**IPENZ 41/34 Risk analysis for tunnelling ground movement assessments.**

Devriendt, M. Proceedings of the Institution of Civil Engineers: Geotechnical Engineering, Volume 163, Issue GE3 (June 2010) Pages 109-118.

√**IPENZ 41/35 Design and construction of Clackmannanshire Bridge, Scotland.**

Bourne, S. et al. Proceedings of the Institution of Civil Engineers: Bridge Engineering, Volume 162, Issue BE4 (December 2009) Pages 167-187.

√**IPENZ 41/36 Review paper on solar-powered air-conditioning through adsorption route.**

Choudhury, B., Chatterjee, P and Sarkar, J. Renewable and Sustainable Energy Reviews, Volume 14, Issue 8 (October 2010) Pages 2189-2195.

√**IPENZ 41/37 Drilling under DFW.**

Hutson, A., Faughtenberry, J. and Fissel, R. Civil Engineering, Volume 80, Issue 5 (May 2010) Pages 76-83.

The article focuses on the Chesapeake Energy Dallas/Fort Worth International Airport (DFW) Gas Gathering Pipeline Project in Texas. The 80 million dollar project will focus on the installation of water and gas pipelines through horizontal directional drilling (HDD).

√**IPENZ 41/38 Seismic design factor for sliding of waterfront retaining wall.**

Ahmad, S. M and Choudhury, D. Proceedings of the Institution of Civil Engineers: Geotechnical Engineering, Volume 162, Issue GE5 (December 2009) Pages 269-276.

√**IPENZ 41/39 Containing the constraints.**

Starr, P. Civil Engineering, Volume 80, Issue 5 (May 2010) Pages 56-86.

The article reviews the design of the container terminal in Jacksonville, Florida, designed by Design Works Architects.

√IPENZ 41/40 **Design and construction of a submarine outfall in Murcia, Spain.**

Hernández, T. et al. Proceedings of the Institution of Civil Engineers: Maritime Engineering, Volume 161, Issue MA3 (September 2008) Pages 107-115.

√IPENZ 41/41 **Implications of pyritic rockfill on performance of embankment dams.**

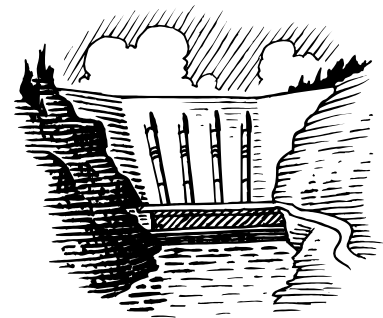
Cambridge, M. Dams and Reservoirs, Volume 18, Number 2 (July 2008) Pages 63-69.

√IPENZ 41/42 **Geomorphic dam-break flows. Part I: Conceptual model.**

Leal, J. G. A. B., Ferreira, R. M. L. and Cardoso, A. H. Proceedings of the Institution of Civil Engineers: Water Management, Volume 163, Issue WM6 (June 2010) Pages 297-304.

√IPENZ 41/43 **Geomorphic dam-break flows. Part II: Numerical simulation.**

Leal, J. G. A. B., Ferreira, R. M. L. and Cardoso, A. H. Proceedings of the Institution of Civil Engineers: Water Management, Volume 163, Issue WM6 (June 2010) Pages 305-313.



√IPENZ 41/44 **A challenging gate repair at Cowlitz Falls.**

Grego, S., Slender, J and Fulsaa, L. Hydro Review (July 2010) Pages 40-47.

Sluice repaired in short amount of time.

√IPENZ 41/45 **Geomembrane installed to control leakage at Gem Lake Dam.**

Stoessel, J and Wilkes, J. Hydro Review (July 2010) Pages 72-84.

√IPENZ 41/46 **Australian renewable energy progress.**

Zahedi, A. Renewable and Sustainable Energy Reviews, Volume 14, Issue 8 (October 2010) Pages 2208-2213.

√IPENZ 41/47 **Evaluating the level and nature of sustainable development for a geothermal power plant.**

Phillips, J. Renewable and Sustainable Energy Reviews, Volume 14, Issue 8 (October 2010) Pages 2414-2425.

√IPENZ 41/48 **Soft ground improvement with solar-powered drainage.**

Pothiraksanon, C. et al. Proceedings of the Institution of Civil Engineers: Ground Improvement, Volume 163, Issue GI1 (February 2010) Pages 23-30.

√IPENZ 41/49 **Modelling the hydraulics of the Carlisle 2005 flood event.**

Horritt, M. S. et al. Proceedings of the Institution of Civil Engineers: Water Management, Volume 163, Issue WM6 (June 2010) Pages 273-281.

√IPENZ 41/50 **Climate change litigation to flood planning and development in coastal areas.**
Briggs, P and Taberner, J. Keeping Good Companies, Issue 3 (2010) Pages 168-172.

√IPENZ 41/51 **An information system for risk-vulnerability assessment to flood.**
Karmakar, S et al. Journal of Geographic Information Systems, Volume 2 Issue 3 (July 2010) Pages 129-146.

√IPENZ 41/52 **Does communicating (flood) risk affect (flood) risk perceptions? Results of a quasi-experimental study.**
Terpstra, T., Lindell, M and Gutteling, J. :Risk Analysis: An International Journal, Volume 29 Issue 8, (August 2009) Pages 1141-1155.

√IPENZ 41/53 **Technology-based industrial environmental management: A case study of electroplating in Shenzhen, China.**
Lei Liu, Xiaoming Ma, Journal of Cleaner Production, Volume 18, Issues 16-17 (November 2010) Pages 1731-1739.

√IPENZ 41/54 **Techno-economic performance analysis of small to medium scale biomass combustion plants for energy production.**
Patel, C. et al. Journal of Solid Waste Technology & Management, Volume 36, Issue 3 (August 2010) Pages 32-43.

√IPENZ 41/55 **Ground energy systems: Delivering the potential.**
Preene, M. and Powrie, W. Proceedings of the Institution of Civil Engineers: Energy, Volume 162, Issue EN2 (May 2009) Pages 77-84.
Ground energy systems are increasingly being considered as an alternative to traditional heating and cooling systems as a way to reduce carbon emissions, control energy costs and improve the environmental performance of buildings. These systems use the ground and groundwater beneath a site as a heat source or sink, interacting through boreholes or pipes that exchange heat with the ground.
Abstract reprinted with the permission of Thomas Telford Limited:
http://www.ice.org.uk/services/services_journals.asp

√IPENZ 41/56 **Technological advances and applications of geothermal energy pile foundations and their feasibility in Australia.**
Moel, M. Renewable and Sustainable Energy Reviews, Volume 14, Issue 9 (December 2010) Pages 2683-2696. Geothermal energy pile foundations are an alternative energy source for heating and cooling needs. Utilising this source of energy has great potential due to the environmental, economic and social benefits

√IPENZ 41/57 **An innovative in-vessel tunnel composting system.**
Webb, A. L. Proceedings of the Institution of Civil Engineers: Waste and Resource Management, Volume 160, Issue WR1 (February 2007) Pages 27-31.

√IPENZ 41/58 **Sustainable waste management systems.**

Seadon, J. Journal of Cleaner Production, Volume 18, Issues 16-17, (November 2010) Pages 1639-1651,

√IPENZ 41/59 **A new framework for evaluating along-wind responses of a transmission tower.**

Guohuan Liu; Hongnan Li. Earthquake Engineering and Engineering Vibration, Volume 8 Issue 1 (March 2009) Pages 87-93.

√IPENZ 41/60 **Dynamic response of transmission lines guyed towers under wind loading.**

Gani, F and Légeron, F. Canadian Journal of Civil Engineering;, Volume 37 Issue 3 (March 2010) Pages 450-465.

√IPENZ 41/61 **Serviceability design factors for wind-sensitive structures.**

Pozos-Estrada, A., Hong, H and Galsworthy, J. Canadian Journal of Civil Engineering,, Volume 37 Issue 5 (May 2010) Pages728-738.

√IPENZ 41/62 **Acid mine drainage treatment with dunite.**

Demetriou, A et al. Desalination & Water Treatment, Volume 16 Issue 1-3 (April 2010) Pages 129-133.

√IPENZ 41/63 **Utilization of coal/biomass fly ash and glacial till soil as a flowthrough reactive barrier for the treatment of acid mine drainage.**

Penney, K ., Mohamedelhassan, E and Catalan, L. Journal of Solid Waste Technology & Management, Volume 36 Issue 3 (August 2010) Pages 675-686.

√IPENZ 41/64 **Improving the performance of a Seawater Greenhouse desalination system by assessment of simulation models for different condensers.**

Renewable and Sustainable Energy Reviews, Volume 14, Issue 8, October 2010, Pages 2182-2188.

√IPENZ 41/65 **Solar energy supported desalination processes for desalting of sea water.**

Argun, M. Journal of International Environmental Application & Science, Volume 5 Issue 2, (April 2010) Pages 306-310.

√IPENZ 41/66 **Energy consumption of reverse osmosis seawater desalination – possibilities for its optimisation in design and operation of SWRO plants.**

Ludwig, H. Desalination & Water Treatment, Volume 13 ,Issue 1-3, (January 2010) Pages 13-25.

√IPENZ 41/67 **Cost and emissions impacts of plug-in hybrid vehicles on the Ohio power system.**

Sioshansi, R., Fagiani, R and Marano, V. Energy Policy, Volume 38, Issue 11 (November 2010) Pages 6703-6712.

√IPENZ 41/68 On integration of plug-in hybrid electric vehicles into existing power system structures.

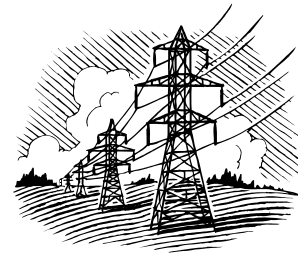
Galus, M., Zima, M and Andersson, G. Energy Policy, Volume 38, Issue 11 (November 2010) Pages 6736-6745.

√IPENZ 41/69 Effect of hybrid system battery performance on determining CO2 emissions of hybrid electric vehicles in real-world conditions.

Alvarez, R, Schlienger, P and Weilenmann, M. Energy Policy, Volume 38, Issue 11 (November 2010) Pages 6919-6925.

Heritage DVDs held in Energy Library Collection

Recently GridHeritage presented a set of historic DVDs to Energy Library. The DVDs cover the history of electricity transmission in New Zealand. They are part of an ongoing project by John Cook and now represent perhaps the largest single collection of their type in NZ.



To find out more about Grid Heritage visit their web site

<http://www.gridheritage.org.nz/>

√IPENZ 41/70 Manapouri power station and line construction. Wellington: GridHeritage/John Cook, 2009.

The Manapouri Power Project started in 1963 and was commissioned 6 years later in September 1969. This DVD contains three separate film productions. These record the history of the civil engineering work undertaken, the construction of the Manapouri Power Station and the construction of the Manapouri-Tiwai Power Line.

√IPENZ 41/71 The history of New Zealand's inter-island HVDC link. Wellington: GridHeritage, 2009.

This DVD contains four separate video and film productions. These record the history of New Zealand's high voltage direct current link between the North and South Islands.

√IPENZ 41/72 Control centres. GridHeritage. Wellington: Transpower, 2009.

This volume contains various videos covering Control Centres, or Service Centres as they were called in the late 90s. In the 21st century these are now known as Coordination Centres.

√IPENZ 41/73 Towers and lines. Grid Heritage. Wellington: Transpower, 2009.

This 3-DVD volume contains various videos covering transmission lines and towers between 1970 and 2003.

√**IPENZ 41/74 Power stations.** Grid Heritage. Wellington: Transpower, 2009.
 This 2-DVD volume covers power stations set up from 1950 to 1995: Mangakino; Whakamaru; Ohaaki; Pure Brilliance; Waitaki-Aviemore-Benmore Spilling; Waitaki 220kV Interconnection Project

√**IPENZ 41/75 Project Enterprise.** Grid Heritage. Wellington: Transpower, 2009.
 Project Enterprise was initiated to develop the processes required for Grid Operating Services to use with the introduction of the Wholesale Electricity Market from 1 October 1996. This 2-DVD volume contains presentations made to the Project Enterprise Steering Committee (PEST) by four of the Process re-engineering Teams: RTGP - Real Time Grid Processes; STGP - Study Time Grid Processes; DET - Dispatch Enterprise Team; SET - Security Enterprise Team

√**IPENZ 41/76 When things go wrong.** Grid Heritage. Wellington: Transpower, 2009.
 This 1-DVD volume contains 2 videos. The first is a home-made video showing the effects of fault current. The second shows the damage to Edgecumbe substation after the 1998 earthquake.

√**IPENZ 41/77 Marketing.** Grid Heritage. Wellington: Transpower, 2010.
 This 2-DVD volume contains various videos covering promotions or marketing. These were produced from 1982-2002: Islington Substation Open Day; Switched on; ECNZ Video News Link 1; ECNZ Video News Link.

√**IPENZ 41/78 News.** Grid Heritage. Wellington: Transpower, 2009.
 2 DVDs containing the following news clips: ECNZ Tunnel Borer TV1 and TV3 News + raw footage; Close Up - Global warming; Close up - EMF Health issues; TV One - 400kv 20/10/04; TV One - 400kV 8/11/04; TV One 400kV 9/11/04; Close Up - 400kV 25/02/05; Holmes - EMF 10/03/05; Holmes - 400kV 15/03/05; TV One News 15/03/05.

SPECIAL TOPICS IN PREVIOUS IPENZ ENGINEERING UPDATES

<ul style="list-style-type: none"> ➤ Geo-engineering ➤ Corrosion in the marine environment ➤ Compressed air: Pt 2 Energy storage ➤ River management ➤ Solar energy ➤ Infrastructure development/investment ➤ Drinking water ➤ Energy from wastes –gasification of municipal solid wastes ➤ Infrastructure condition monitoring ➤ Bridges ➤ Wind energy ➤ Life cycle costing ➤ Women in engineering 	<ul style="list-style-type: none"> ➤ Dairy wastes ➤ Smart cities/smart growth ➤ Tunnels and tunnelling ➤ Noise-pollution measurement and control ➤ Risk management ➤ Electric vehicles ➤ Environmental management systems ➤ Biofuels ➤ Peak oil ➤ Rail transportation ➤ Planning aspects of wind farms ➤ Water reuse/greywater/graywater ➤ Disaster and emergency planning and management
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