

IPENZ ENGINEERING UPDATE July 2008



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

√IPENZ 16/01 **Benefits of the NEC ECC form of contract: A New Zealand case study.**

Wright, N and Fergusson, W. International Journal of Project Management (2008) Article in Press. This paper examines by means of a case study the effectiveness of the project and process method detailed in the NEC Engineering and Construction Contract (ECC), as developed and published by the Institute of Civil Engineers (ICE), and makes recommendations regarding its future use. The performance of the ECC with that of a conventional form of contract delivered by two separate contractors to the same employer on the same site in similar timeframes in New Zealand provided a unique opportunity for comparison. The objective was to determine if the benefits claimed by the proponents of the NEC ECC were realised, to understand the factors which need to be considered to ensure successful use of this form of contract and to understand if any changes are needed to make the contract more effective in the NZ environment. Qualitative data were gathered by way of a series of semi-structured interviews with the project management teams of the employer and with both contractors, supplemented by secondary quantitative data extracted from project records. It is concluded that use of ECC does deliver business benefits. Minor changes are recommended for alignment with NZ statutes. It is considered that the findings will be of interest to project managers for larger and complex engineering and construction projects in any country.

√IPENZ 16/02 **Skills and knowledge of cost engineering: Change management for EPC contracting.**

McDonald, Jr and Donald F. AACE International Transactions (2007) Pages 4.1-4.2.

√IPENZ 16/03 **Success criteria and factors for international development projects: A life-cycle-based framework.**

Do Ba Khang and Tun Lin Moe. Project Management Journal, Volume 39 Issue 1 (March 2008) Pages p72-84.

√IPENZ 16/04 **Valuing simple multiple-exercise real options in infrastructure projects.**

Chiara, N., Garvin, M and Vecer, J. Journal of Infrastructure Systems, Volume 13 Issue 2 (June 2007) Pages 97-104.

Discusses revenue risk in project financing arrangements such as build-operate-transfer (BOT).

√IPENZ 16/05 **Vanguards and ventures : projects as vehicles for corporate entrepreneurship.**

Frederiksen, L and Davies A. International Journal of Project Management, Volume 26 Issue 5 (July 2008) Pages 487-496.

Two illustrative cases :

The wind turbine case: Npower Renewables: North Hoyle offshore wind farm.

The carbon dioxide storage case.

√IPENZ 16/06 **Structuring win-win proposal strategies: trials and tribulations.**
Noor, I et al. AACE International Transactions, (2007) Pages PM04.1 PM04.6.

√IPENZ 16/07 **Reaching your potential.**

Kaplan, R. Harvard Business Review, Volume 86 Issue 7/8 (July/August 2008) Pages 45-49.
Despite their lofty job titles and impressive pay, many high-achieving executives feel professionally dissatisfied and unfulfilled. Looking back, they wish they'd accomplished more or even chosen a different career altogether. Often they feel trapped in their jobs. In this article, Kaplan, a Harvard Business School professor, examines why people arrive at this impasse—and offers them guidance on how to break through it and reach their full potential. That goal isn't about getting to the top, he says. Rather, it's about taking a very personal look at how you define success in your heart of hearts, and then finding your own path there.

√IPENZ 16/08 **Why some companies excel at conducting business globally.**

Royal, M and Stark, M. J. Journal of Organizational Excellence, Volume 25 Issue 4 (Autumn 2006) Pages 3-10.

Outlines results of research by Hay Group which identifies five key areas that are important for companies who want to succeed globally.

√IPENZ 16/09 **Fighting the orthodoxy : learning to be pragmatic.**

Smith, K. Academy of Management Review, Volume 33 Issue 2 (April 2008) Pages 304-308.
The text of a speech. Smith relates his beginnings in the business world as a MBA graduate and lessons gained from practical experience, including profit sharing and time management.

√IPENZ 16/10 **Becoming an ever-evolving enterprise.**

Harper, S and Glew, D. Industrial Management, Volume 50 Issue 3 (May 2008) Pages 22-26.
Suggests three factors that help a firm achieve exceptional results.

√IPENZ 16/11 **Closing the credibility gap: The challenges of corporate responsibility reporting.**

MacLean, R and Rebernak, K. Environmental Quality Management, Volume 16 Issue 4, (Summer 2007) Pages 1-6.

√IPENZ 16/12 **Inside activity based cost systems.**

Beaulieu, P and Mikuleky, M. Industrial Management, Volume 50 Issue 3 (May 2008) Pages 17-21.

√IPENZ 16/13 **Persuasion with case studies.**

Siggelkow, N. Academy of Management Journal, Volume 50 Issue 1 (February 2007) Pages 20-24.
Provides some ideas for writing a convincing paper which uses case based research.

√IPENZ 16/14 **Take a strategic approach to persuasion.**

Bielaszka-DuVernay, C. Harvard Management Update, Volume 13 Issue 7 (July 2008) Pages 3-5

√IPENZ 16/15 **Off-Sites that work.**

Frisch, B and Chandler, L. Harvard Business Review, Volume 84 Issue 6, (June 2006) Pages 117-126.

Of all the meetings top executives go to in a year, none is more important than the strategy off-site, where the most essential conversations for the future of the business occur. Yet it is the rare management team that can say its strategy off-site truly changed the way the business is run. At best, participants do some vague direction setting and work on team-building skills; at worst, they write off the retreat as a waste of time and resources. It needn't be like that. From their two decades of experience designing and facilitating strategy off-sites in companies large and small around the world, the authors have distilled a set of best practices that businesses can use to make the most of this annual opportunity.

√IPENZ 16/16 **A strategic approach to advancing sustainability at Steelcase.**

Smith, A. and Rinard, D. Journal of Organizational Excellence, Volume 25 Issue 3 (Summer 2006) Pages 3-12.

Steps taken by one company to minimize its environmental footprint.

√IPENZ 16/17 **Marketing the image of management : the costs and benefits of CEO reputation.**

Ranft, A et al. Organizational Dynamics, Volume 35 Issue 3 (2006) Pages 279-290.

√IPENZ 16/18 **Investigating risk factors for slips, trips and falls in New Zealand residential construction using incident-centred and incident-independent methods.**

Bentley, T et al. Ergonomics, Volume 29 Issue 1 (2006) Pages 62-77.

√IPENZ 16/19 **The Resource Management Act 1991 through external eyes.**

Carlman, I. New Zealand Journal of Environmental Law, Volume 11 (2007) Pages 181-210.

√IPENZ 16/20 **A new input device: comparison to three commercially available mouse.**

Ergonomics, Volume 50 Issue 2 (February 2008) Pages p208-227.

Comparison of a traditional mouse and a new computer input device.

√IPENZ 16/21 **Applying a strategy of learning by example.**

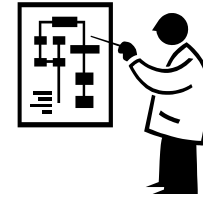
Rosenberg, M. Chief Learning Officer, Volume 7 Issue 3 (March 2008) Pages 22-25.

√IPENZ 16/22 **Shiftwork experience, age and cognitive performance.**

Rouch, I. et al. Ergonomics, Volume 48 Issue 10 (February 2005) Pages 1282-1293.

√IPENZ 16/23 **Conducting an effective Board evaluation.**

Curtis, G. Directorship, Volume 33 Issue 4 (September 2007) Pages 62-65.



Technical Aspects of Engineering – Abstracts for most available upon request

√IPENZ 16/24 Approach to determine extent and depth of highway flooding.

Hubo, C., Rasdorf, W and Tilley, C. Journal of Infrastructure Systems, Volume 13 Issue 2 (June 2007) Pages 157-167.

√IPENZ 16/25 Future flood risk management in the UK.

Evans, E et al. Proceedings of the Institution of Civil Engineers. Water Management, Volume 159 Issue WM1 (March 2006) Pages 53-61.

√IPENZ 16/26 Red River flooding, the floodway and expansion.

McNeil, D. Canadian Civil Engineer, Volume 24 Issue 3 (Summer 2007) Pages 8-11.

√IPENZ 16/27 Sharing the load? Floods, droughts, and managing international rivers.

Janmaat, J and Ruijs, A. Environment and Development Economics, Volume 12 Issue 4 (2007) Pages 573–592.

√IPENZ 16/28 Sediment dynamics surrounding a flood tidal delta adjacent to reclamation and a dredged turning basin.

Longdill, P and Healy, T Journal of Coastal Research, Volume 23 Issue 5 (2007) Pages 1097-1105. Study done at Whangarei Harbour.

√IPENZ 16/29 Statistical analysis of structural vibrations due to crowd jumping loads.

Sim J., Blakeborough, A and Williams, A. Proceedings of the Institution of Civil Engineers : Structures and Buildings, Volume 161 Issue SB2 (April 2008) Pages 65-75.

√IPENZ 16/30 Membrane action in thickness design for ground slabs.

Eyre, J. The Structural Engineer, 9 January (2007) Pages 29-31

√IPENZ 16/31 Out of this world : Tall buildings : special feature. (Burj Dubai)

Post, N. ENR 12 May (2008) Pages 26-33.

√IPENZ 16/32 San Francisco's 590-ft skyscraper lifts seismic design's stature: performance based concrete job breaks floor speed record on West Coast.

Post, N. ENR, 21 January (2008) Pages 22-26

Performance-based seismic design for high rise buildings in San Francisco. Article describes case study of PSD and suggests it can reduce costs, improve design and ease construction.

√ IPENZ 16/33 **Factors affecting life-cycle cost analysis of RC structures in chloride contaminated environments.**

Dimitri V. Journal of Infrastructure Systems, Volume 13 Issue 2 (June 2007) Pages 135-143.

√ IPENZ 16/34 **Cathodic protection of concrete structure containing calcareous aggregates in tropical humid marine environments.**

Sosa, R et al. Anti-Corrosion Methods and Materials, Volume 54 Issue 2 (2007) Pages 103-110.

√ IPENZ 16/35 **Corrosion performance of concrete cylinder piles.**

Lau, K. et al. Corrosion, Volume 63 Issue 4 (April 2007) Pages 366-378.

√ IPENZ 16/36 **Implications of the change to Eurocodes for bridge design.**

Hendy, C. Proceedings of the Institution of Civil Engineers ; Bridge Engineering, Volume 161 Issue BE1 (March 2008) Pages 3-10

√ IPENZ 16/37 **Realistic assessment for safety and service life of reinforced concrete decks in girder bridges.**

Oh, Byung Hwan., Lew, Young Choi, Young Cheol. Journal of Bridge Engineering, Volume 12 Issue 4 (July/August 2007) Pages 410-418.

√ IPENZ 16/38 **Bridge distress caused by approach embankment settlement.**

Jones, A., Stewart, D and Danilewicz, C. Proceedings of the Institution of Civil Engineers : Geotechnical Engineering, Volume 161 Issue GE2 (April 2008) Pages 63-74.

√ IPENZ 16/39 **Seismic capacity evaluation of school buildings in Turkey.**

Inel, M. Proceedings of the Institution of Civil Engineers : Structures and buildings, Volume 161 Issue SB3 (June 2008) Pages 147-159.

√ IPENZ 16/40 **Practical design approach for piles with negative friction.**

Poulos, H. Proceedings of the Institution of Civil Engineers : Geotechnical Engineering, Volume 161 GE1 (February 2008) Pages 19-27.

√ IPENZ 16/41 **Submarine slope failure due to gas hydrate dissociation ; a preliminary qualification.**

Canadian Geotechnical Journal, Volume 44 Issue 3 (March 2007) Pages 314-325.

√ IPENZ 16/42 **Slope failure characteristics and stabilization methods.**

Chen, H and Liu, S. Canadian Geotechnical Journal, Volume 44 Issue 3 (March 2007) Pages 377-391.

√ IPENZ 16/43 **Technologies for electric, hybrid and hydrogen vehicles : Electricity from renewable energy sources in transport.**

Jorgensen, K. Utilities Policy, Volume 16, Issue 2 (June 2008) Pages 72-79.

√ IPENZ 16/44 **Biggest bang from the biogas production buck.**

McDonald, N and Greer, D. BioCycle, Volume 49 Issue 4 (April 2008) Pages 37-42.

√ IPENZ 16/45 **Evaluation of trenchless technology methods for municipal infrastructure system.**

Jung, Y and Sinha S. Journal of Infrastructure Systems, Volume 13 Issue 2 (June 2007) Pages 144-156.

√ IPENZ 16/46 **Asset management : quantifying economic lifetime of large diameter pipelines.**

Davis, P and Marlow, D. American Water Works Association Journal, Volume 100 Issue 7 (July 2008) Pages 110-119.

√ IPENZ 16/47 **Performance indicators and multicriteria decision support for sewer asset management.**

Le Gauffre, P. et al. Journal of Infrastructure Systems, Volume 13 Issue 2 (June 2007) 2, Pages 105-114.

√ IPENZ 16/48 **Exploring new models of solar energy development.**

Asmus, P. Electricity journal, Volume 21 Issue 3 (April 2008) Pages 61-70.

√ IPENZ 16/49 **Modelling bulk water temperature in integrated collector storage systems.**

Currie, J et al. Building Services Engineering Research & Technology, Volume 29 Issue 3 (August 2008) Pages 203-218.

Describes a low cost integrated collector storage solar water heater (ICS-SWH)

√ IPENZ 16/50 **Putting out to sea on water management: The rhyme of the modern mariner.**

Rokach, J The Electricity Journal Volume 21, Issue 4, , May 2008, Pages 43-50.

Two case studies in water management.

√ IPENZ 16/51 **Effect of water main repairs on water quality.**

Besner, M et al. American Water Works Association. Journal, Volume 100 I(July 2008) Pages 95-109.

√ IPENZ 16/52 **Passive fire protection of concrete structures.**

Proceedings of the Institution of Civil Engineers : Structures and Buildings, Volume 161 Issue SB3 (June 2008) Pages 135-145.

√ IPENZ 16/53 **A fire resistance dilemma : have load factor changes reduced the fire endurance of typical slabs and beams?**

Gamble, W. Concrete International (April 2008) Pages 63-67.

√ IPENZ 16/54 **Uncertainty in traffic forecasts : literature review and new results for the Netherlands.**

Jong, G et al. Transportation, Volume 34 Issue 4 (July 2007) Pages 375-395.

√ IPENZ 16/55 **Impacts of bus rapid transit lanes on traffic and commuter mobility.**

Patankar, V., Kumar, R and Tiwari, G. Journal of Urban Planning & Development; Volume 133 Issue 2 (June 2007) Pages 99-106.

√ IPENZ 16/56 **High-performance highways.**

Public Roads, Volume 70 Issue 6 (May 2007) Pages 2-9.

√ IPENZ 16/57 **Real-world vehicle emissions: A Summary of the Seventeenth Coordinating Research Council On-Road Vehicle Emissions Workshop.**

Journal of the Air & Waste Management Association, Volume 58 Issue 1 (2008) Pages, 3-11.

IPENZ 16/58 **-High quality composts by means of cocomposting of residues from anaerobic digestion.**

Meissl, K and Smidt, E. Compost Science & Utilization, Volume 15 Issue 2 (Spring 2007) Pages 78-83.

√ IPENZ 16/59 **Integrating alternative and conventional cooling technologies.**

Radermacher, R., Yang, B and Hwang, Y. ASHRAE Journal, Volume 49 Issue 10 (October 2007) Pages 28-34.

√ IPENZ 16/60 **Optimization of HVAC control to improve comfort and energy performance in a school.**

Dong, D, Song, L, Wei, G. Energy Engineering, Volume 105 Issue 3 (2008) Pages 6-23

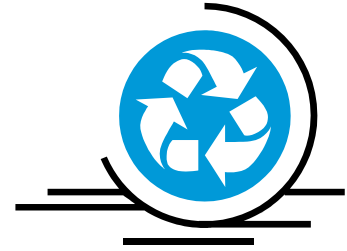
√ IPENZ 16/61 **Architecture draws on heat and cold: the collaboration between two Australian firms on Melbourne's new Council House 2 shows off the strong possibilities for building integrated HVAC.**

Fortmeyer, R. ENR, 21 January (2008) Pages 59-64.

Describes a high performance sustainable designed office building.

Continuing education feature which includes learning objectives and a questionnaire at conclusion of article.

Feature Focus Environmental Management Systems



Abstracts can be supplied on request

IPENZ 16/62 Are EMS environmentally effective? The link between environmental management systems and environmental performance in European companies.

Hertin, J et al. Journal of Environmental Planning & Management, Volume 51 Issue 2, (March 2008) Pages 259-283.

European companies in five industrial areas were analysed to determine whether an EMS has impacted positively on the company's eco-efficiency.

√ **IPENZ 16/63 Incorporating continuous improvement principles into EMS auditing strategies**

Kraus, J and Platkus, W. Environmental Quality Management, Volume 16 Issue 4, (Summer 2007) Pages 7-12.

√ **IPENZ 16/64 Contrasting institutional and performance accounts of environmental management systems: Three case studies in the UK water & sewerage industry.**

Schaefer, A. Journal of Management Studies, Volume 44 Issue 4, (June 2007) Pages 506-535.

√ **IPENZ 16/65 Connecting EIA to environmental management systems: lessons from industrial estate developments in England.**

Slinn, P., Handley, J and Jay, S. Corporate Social Responsibility & Environmental Management, Volume 14 Issue 2 (May 2007) Pages 88-102.

√ **IPENZ 16/66 New instruments – old practices? The implications of environmental management systems and extended producer responsibility for design for the environment.**

Kautto, P. Business Strategy & the Environment, Volume 15 Issue 6 (November/December 2006) Pages p377-388.

√ **IPENZ 16/67 Designing environmental management systems to create financial value: A benefit-cost estimation methodology.**

Soyka, P. Environmental Quality Management, Volume 16 Issue 2, (Winter 2006) Pages 7-23. EMS costs and benefits are discussed.

√ **IPENZ 16/68 Effect of environmental management systems on investor reactions to emission information.**

Joshi, S., Khanna, M and Sidique, S. Academy of Management Proceedings, (2005) Pages D1-D6.

√ **IPENZ 16/69 Environmental management system provides tools for delivering on environmental impact assessment commitments.**

Ridgway, B. Impact Assessment & Project Appraisal, Volume Issue 4 (December 2005) Pages 325-331.

√ **IPENZ 16/70 Environmental Management Systems: How Successful Are They?**

Gibson, K. Environmental Quality Management, Volume 14 Issue 3, (Spring 2005) Pages 25-30.

√ **IPENZ 16/71 Integrating managers into environmental management systems.**

Giles, F. Environmental Quality Management, Volume 14 Issue 4, (Summer 2005) Pages 31-38.

Other Resource Listings from Energy Library

Energy Library also produces two other Updates—The Energy Update and the Bioenergy Update. These can be viewed at the following page.

<http://www.energylibrary.org.nz/news.asp>

The Energy Update often has a Special Topic section which may be of interest. Listed below are some examples with a link to the specific issue.

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The reform of New Zealand's Electricity sector	February 2008
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Modern metering	October 2007
Energy and transport	September 2007
Carbon taxes and emissions trading	August 2007
Weather related blackouts	July 2007
Carbon capture and storage	June 2007
Social acceptance of wind farms	April 2007
Green building	March 2007
Energy efficient lighting	February 2007
Transport emissions	January 2007

