

Energy Library update July 2006

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Featured Energy Library journals

Electra

Published 6 times a year, this is the official CIGRE (International Council on Large Electric Systems) journal. Among other things it reports on the work of the CIGRE Study Committees. Take a look at some of the past table of contents [here](#).

(To go on the circulation list email kmcara@energylibrary.org.nz Ref: **07Electra**)

IEEE Power & Energy

This bimonthly electric power engineering magazine can be a valuable way of keeping up to date with what is happening in the industry. Topics covered include: new technologies and practices, environmental and social concerns, industry news, business trends and strategies, products, and publications. Find out more [here](#).

(To go on the circulation list email kmcara@energylibrary.org.nz Ref: **07IEEE**)

New books

6 Habits of Highly Effective Bosses

Kohn, S.E. and O'Connell, V.D. (2005) Franklin: Career Press

Leadership coaches Kohn and O'Connell briefly discuss management challenges from an interpersonal perspective. Tips on how to resolve and avoid people problems that may arise in any organisation irrelevant of its size and organisational structure are given. Chapters include: following "golden Rule" principles, criticizing artfully and flexing to different people styles.

(To borrow this book email library@energylibrary.org.nz Ref: 07Kohn)

Women Don't Ask: Negotiation and the gender divide

Babcock, Linda and Laschever, Sara (2003) Princeton: Princeton University Press

This book begins by discussing the importance of negotiation in the modern business environment. Supported by research in psychology and sociology a selection of topics is examined such as: gender defined differences in wages, the reluctance of women to negotiate plus challenges they may face and how to overcome them effectively.

(To borrow this book email library@energylibrary.org.nz Ref: 07Babcock)

Shell in New Zealand

Cooke, Peter (2004) Wellington: Shell Heritage Society

This is the story of Shell's involvement in the New Zealand energy scene. It covers the distribution of kerosine in the early 1900s, the discovery and production of gas and condensate in Taranaki, and the involvement in the Marsden Point Refinery amongst other aspects of the business. It is also the story of the people who worked for Shell in NZ.

(To borrow this book email library@energylibrary.org.nz Ref: 07Cooke)

Guide to Energy Management

Capehart, B.L., Turner, W.C., Kennedy, W.J. (2006) Lilburn: Fairmont Press

Leading professionals in the field of Energy management examine the core aspects and challenges that face those concerned with this area. Energy efficiency and effective cost reduction strategies are discussed, with many subtopics covered in detail.

(To borrow this book email library@energylibrary.org.nz Ref: 07Capehart)

2006 Electricity Engineers' Association of New Zealand (EEA) Annual Conference & Trade exhibition (2006) Auckland: EEA

(To borrow this conference proceeding email library@energylibrary.org.nz Ref: 07EEA)

Reports

MEPS or labelling for portable dehumidifiers for residential use in Australia and New Zealand: scoping study Energy Consult (2005) Wellington: EECA

This report looks at refrigeration cycle type dehumidifiers used in residential dwellings in Australia and New Zealand. The report provide its findings and recommendations on the

suitability of applying MEPS (Minimum Energy Performance Standards) or labelling schemes for portable residential dehumidifiers in New Zealand.
(This report is freely available [here](#))

Minimum energy performance standards: televisions Wise Analysis Limited (2005)
Wellington: EECA

This scoping report looks at Australian proposals to introduce a MEPS and comparative labelling scheme for televisions. It recommends further action for policy makers and also that a MEPS and energy labelling scheme be carried out jointly with Australia.
(This report is freely available [here](#))

Project report: MEPS for heat exchange water heaters Palmer, Eric (2005)
Wellington: EECA

This report looks at the impact of imposing MEPS on heat exchange water heaters and provides recommendations for the adoption of a new joint Australian New Zealand standard AS/NZS 4692.2 2005.
(To borrow this report email library@energylibrary.org.nz Ref: **07Palmer**)

Measurement of extremely low frequency electric and magnetic fields beneath 66 kV power lines at Burnside Park, Christchurch Kilgour, O. (2005). Christchurch: National Radiation Laboratory
(This report is freely available [here](#))

Standards update

Some of the Testing and Measurement parts of the Electromagnetic Compatibility (EMC) series have recently been updated:

AS/NZS 61000.4.1:2006 Electromagnetic compatibility (EMC) - Testing and measurement techniques - Overview of IEC 61000-4 series

AS/NZS 61000.4.3:2006 Electromagnetic compatibility (EMC) - Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test

AS/NZS 61000.4.4:2006 Electromagnetic compatibility (EMC) - Testing and measurement techniques - Electrical fast transient/burst immunity test

AS/NZS 61000.4.5:2006 Electromagnetic compatibility (EMC) - Testing and measurement techniques – Surge immunity test

AS/NZS 61000.4.6:2006 Electromagnetic compatibility (EMC) - Testing and measurement techniques - Immunity to conducted disturbances, induced by radiofrequency fields

If there is sufficient demand for these parts, we will be able to purchase them for the library and have them available for loan. To express interest in borrowing any of them, please email library@energylibrary.org.nz with the Ref (for example): **07Part4.1**

Journal articles

A survey of engineering tools for protective relaying / CIGRE Task Force Report

TF B5.03 Kezunovic, M. [Convener], Electra No. 225 April 2006 p26-30

Engineering tools play a significant role in designing and implementing the protective relaying solutions, in various areas. For modeling and simulation, there are lots of software packages for load flow and short circuit studies, but fewer for stability and electromagnetic transient studies; relay setting coordination is more frequent than relay modeling; relay testing is an important and frequent engineering task; relay databases are not very comprehensive although they are very important.

(For a copy of this article email library@energylibrary.org.nz Ref: **07Kezunovic**)

AC corrosion on metallic pipelines due to interference from AC power lines: Phenomenon, modelling and countermeasures / CIGRE Technical Brochure 290

JWG c4.2.02 Electra No 225 April 2006 p.63-69

AC corrosion has been a matter of concern for pipeline owners and corrosion specialists for many years. Therefore, the CIGRE/CIREC Joint Working Group C4.2.02 has in cooperation with CEOCOR prepared a guide which describes and links the mechanisms for electrical interference with the mechanism for corrosion.

(For a copy of this article email library@energylibrary.org.nz Ref: **07CIGRE290**)

Anaerobic Membrane Bioreactors: Applications and Research Directions. Liao, B. et al (2006). Critical Reviews in Environmental Science & Technology. 36(6):489-530.

This article discusses the use of membranes in the biological treatment of wastewater and outlines the areas in which more research is required before their commercial application to anaerobic treatment will be feasible.

(For a copy of this article email library@energylibrary.org.nz Ref: **07Liao**)

Understanding what your sales manager is up against. Trailer, B. & Dickie, J. (2006). Harvard Business Review 84(7/8), 48-55.

This article reports on the modern challenges for sales organizations. It explains how the buy and sell cycles have changed. There is an increasing amount of information available to buyers (eg via the Internet) so the seller often becomes aware of the buyer at a later stage in the cycle. The ramifications for sales managers and sales training are discussed.

(For a copy of this article email library@energylibrary.org.nz Ref: **07Trailer**)

Wai Gao Qiao: taking supercritical technology to new heights. Kessel, W. et al (2006). Modern Power Systems, 26(6), 23-31.

This article reports on coal-fired boilers in Shanghai which are owned by the Shanghai Municipal Electric Power Company. The units use advanced sliding pressure tower type supercritical boiler technology and the next phase of boilers will be even more efficient.

(For a copy of this article email library@energylibrary.org.nz Ref: **07Kessel**)

Holistic Approach for Assessing the Vulnerability of Buried Pipelines to Earthquake Loads

Ellouche, E., and Bowman, A. (2006). Natural Hazards Review, 7(1), 12-18.

Employing the analytical hierarchy process and frequently used statistical methods a screening tool was developed to estimate the ability of buried lifeline networks to bear earthquake loads. The results are relevant for municipal and utility planning.
(For a copy of this article email library@energylibrary.org.nz Ref: **07Eilouche**)

Fear of Residential Load Calcs. (Cover story). Checket-Hanks, B. (2006).
Air Conditioning Heating & Refrigeration News, 228(7), 1-37.
This article reports that most contractors do not to perform load calculations on residential jobs and discusses the reasons why contractors do not perform them.
(For a copy of this article email library@energylibrary.org.nz Ref: **07Checket**)

Building the Green Way. Lockwood, C. (2006).
Harvard Business Review 84(6) 129-137.
According to the author, green building is becoming mainstream as people begin to see the financial benefits. Ten rules are outlined for building sustainably on a standard budget. It is explained that reliable building-rating systems have done much to underscore the benefits of green construction and green renovation.
(For a copy of this article email library@energylibrary.org.nz Ref:**07Lockwood**)

Innovative managerial control system (IMCS): an application in precast concrete building products industry. Marasini, R., & Dawood, N. (2006). Construction Innovation, 6(2), 97-120.
This article looks at the use of multivariate statistical process control techniques to monitor and manage business process variables. Principal component analysis (PCA) and partial least squares techniques (PLS) are used and the author explains how they are superior to other, more passive statistical tools.
(For a copy of this article email library@energylibrary.org.nz Ref: **07Marasini**)

Clean Energy and Clean Environment Guide for State Policy Development. (2006).
Air Pollution Consultant Vol. 16 Issue 4, p1.4-1.8, 5p
This article reports on the creation of a Clean Energy-Environment Guide to Action (U.S. Environmental Protection Agency) that would assist states joining the Clean Energy Environment State Partnership. Some policies include state planning and incentive structures, energy efficiency actions and energy supply actions.
(For a copy of this article email library@energylibrary.org.nz Ref: **07Clean**)

With the Power at Hand It's simple logic:. Engle, D. (2006). Planning, 72(7), 34-39.
Examines the advantages of combined heating and power in energy management. Explains the rationale behind the integration of distributed generation technologies with sustainable urban design. Discusses the responsibility of the planning team (city planners, engineers etc) in designing energy-smart solutions for community developments.
(For a copy of this article email library@energylibrary.org.nz Ref: **07Engle**)

Controlling Odors, Making Compost at North London Center.

Waters, H. (2006). *BioCycle*, 47(6), 59-62.

This article reports on the large-scale success of the LondonWaste Composting Center, which has been boosted by funding from the government.

(For a copy of this article email library@energylibrary.org.nz Ref: 07Waters)

Integrating Air Pollution, Climate Change, and Economics in a Risk-Based Life-Cycle Analysis: A Case Study of Residential Insulation.

Nishioka, Y. et al (2006). *Human & Ecological Risk Assessment*, 12(3), 552-571.

This article reports on a case study where the use of risk assessment in life-cycle analysis (LCA) was beneficial in refining the results. The case study looked at the effect of improved insulation on residential energy efficiency and the categories considered were particulate matter air pollution, greenhouse gas emissions, and personal income.

(For a copy of this article email library@energylibrary.org.nz Ref: 07Nishioka)

Does Action Learning Promote Collaborative Leadership?

Raelin, J. (2006). *Academy of Management Learning & Education*, 5(2), 152-168.

Action learning is done through reflection on real-time work experience dealing with unfamiliar challenges. According to the author it is a gateway to collaborative leadership and is becoming more popular as a training approach. This article shows how collaborative leadership is influenced by action learning and suggests that the two approaches are based on similar philosophies.

(For a copy of this article email library@energylibrary.org.nz Ref: 07Raelin)

Diagnosing the organizational culture of an Australian engineering consultancy using the competing values framework.

Igo, T., & Skitmore, M. (2006). *Construction Innovation*, 6(2), 121-139.

To operate effectively it is important that an organization is aware of its corporate culture (and how this culture is perceived internally and externally). This article reports on research done to identify the organizational culture of a single, large, Australian engineering, procurement and construction management consultancy

(For a copy of this article email library@energylibrary.org.nz Ref: 07Igo)

Safety implications of low-English proficiency among migrant construction site operatives

Stephan Trajkovski and Martin Loosemore. *International Journal of Project Management* Volume 24, Issue 5 (July 2006) p446-452

Language diversity is a prominent feature of the Australian construction industry. There are many consequences for construction companies; one being an inability to interpret messages regarding workplace hazards. This paper investigates the extent of this problem and its implications for occupational health and safety risks.

(For a copy of this article email library@energylibrary.org.nz Ref: 07Trajkovski)

A feed-forward artificial neural network with enhanced feature selection for power system transient stability assessment

Harinder Sawhney and B. Jeyasurya. *Electric Power Systems Research* Volume 76, Issue 12 (August 2006) p1047-1054

This paper describes an approach where an artificial neural network is used to predict the stability status of the power system. This efficient and robust approach combines the advantages of the time-domain integration schemes and artificial neural network for on-line transient stability assessment of the power system.

(For a copy of this article email library@energylibrary.org.nz Ref: **07Harinder**)

Inertial response of variable speed wind turbines Johan Morren et al.

Electric Power Systems Research Volume 76, Issue 11 (July 2006) p980-987

This article outlines two different control strategies for dealing with the electric power system deviations which result from the increasing penetration of variable speed wind turbines in the electricity grid.

(For a copy of this article email library@energylibrary.org.nz Ref: **07Morren**)

Utility Provider Liability for Electrical Failure: Implications for Interdependent Critical Infrastructure Colleen E. Brown et al.

The Electricity Journal Volume 19, Issue 5 (June 2006) p69-81

As power failures continue to occur there may be changes in the courts' finding of fact as to what is "reasonably foreseeable." The minimum standard of care owed by one party to another may be affected and the bar on what constitutes a reasonable level of blackout preparedness and mitigation efforts may be raised.

(For a copy of this article email library@energylibrary.org.nz Ref: **07Brown**)

Empirical assessment of the determinants of road energy demand in Greece

Michael L. Polemis. Energy Economics. Volume 28, Issue 3 (May 2006) p385-403

This paper attempts to cast light on the determinants of road energy demand in Greece. For this purpose co-integration techniques and vector autoregression analysis were used to capture short-run and long-run dynamics for gasoline and diesel demand, respectively.

(For a copy of this article email library@energylibrary.org.nz Ref: **07Polemis**)

The economic impact of strengthening fuel quality regulation—reducing sulfur content in diesel fuel H.J. Chang et al.

Energy Policy Volume 34, Issue 16 (November 2006) p2572-2585

This paper investigates the impact of strengthening vehicle emission regulation in Korea on economic activities. The measures include the aggregate limit, the vehicle emission standard, and the fuel quality standard (especially with regards to sulfur content).

(For a copy of this article email library@energylibrary.org.nz Ref: **07Chang**)

Project overload: An exploratory study of work and management in multi-project settings Annika Zika-Viktorsson et al. International Journal of Project Management Volume 24, Issue 5 (July 2006) p385-394

Work in a multi-project setting entails a complicated situation characterized by tight schedules, multi-tasking, increased coordination expenditures, and a large amount of set-up time when alternating between tasks. The study addresses the psychosocial issue of project overload for project members and project managers.

(For a copy of this article email library@energylibrary.org.nz Ref: **07Zika**)

Customer response to day-ahead market hourly pricing: Choices and performance Nicole Hopper et al. Utilities Policy Vol 14, Issue 2 (June 2006) p126-134
Real-time pricing (RTP) has been advocated to address extreme price volatility and market power in electricity markets. This study of Niagara Mohawk Power Corporation's largest customers analyzes their choices and performance in response to day-ahead, default-service RTP. Within market segments, individual customer response varies significantly.
(For a copy of this article email library@energylibrary.org.nz Ref: **07Hopper**)

High-stakes creativity. Rod E. Pipinich (2006). Industrial Engineer 38(6) pg. 30, 5 pgs
This article discusses the importance of innovation to business success in the manufacturing and service industries. It outlines how to foster it at all organisational levels and suggests ways of getting past resistance to new ideas.
(For a copy of this article email library@energylibrary.org.nz Ref: **07Pipinich**)

Simulation of Building Energy Use for Three Buildings in Hong Kong W. K. Chow, S. K. Fong. (2006) Energy Engineering. Vol.103, Iss. 3; pg. 9, 16 pgs
This article reports on simulations of the predicted use of building energy for three Hong Kong building designs.
(For a copy of this article email library@energylibrary.org.nz Ref: **07Chow**)

How social-cause marketing affects consumer perceptions. Paul N. Bloom et al. (2006). MIT Sloan Management Review Winter 2006 p49-55
This article describes a technique to help marketing managers ascertain the most appropriate type of affinity marketing program for their organisation.
(For a copy of this article email library@energylibrary.org.nz Ref: **07Bloom**)

The right person for the right role: using competencies in recruitment and selection. Rachel Suff (2006). Competency & Emotional Intelligence Spring 2006 p20-27
The author introduces the concept of competencies in hiring practices and uses case studies to show how this method can result in more effective recruitment outcomes.
(For a copy of this article email library@energylibrary.org.nz Ref: **07Suff**)

Proceedings of ICE, Civil Engineering Nov 2005 Vol 158 Special Issue 2 Sustainable Power: the Role for Engineers

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- **Wind power: a major opportunity for the UK** Ffrench, R. et al 20-27
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Bahaj, A. 45-51
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- **Electrical energy storage—a review of technology options** Price, A. 52-58
(For a copy of this article email library@energylibrary.org.nz Ref: **07ICE8**)

The following articles are freely available online (just click on the title). Let us know if the links stop working as we can usually still obtain these articles...

Bio-fuels: The changing face of commodities. Thomas, P. (2006). Futures: News, Analysis & Strategies for Futures, Options & Derivatives Traders. 35(7):46-49.

Level measurement solutions for coal handling applications. Koeneman, D., & Sholette, W. (2006). Power Engineering, 110(6), 44-48.

Power giant. Sleight, C. (2006). International Construction, 45(5), 14-19.

Research targets more-efficient photovoltaics. Carts-Powell, Y. (2006). Laser Focus World, 42(6), 119-123.

Achieving Energy Security in an Interdependent World (2006) American Petroleum Institute.

Oldies and goodies from the Energy library collection

Against the gods: the remarkable story of risk.

Peter L. Bernstein. Wiley: New York. (1996).

Did you take part in a sweepstake for the World Cup? Then you might want to read this. There's a chapter on the Renaissance gambler- those that gambled often also contributed to the science of probability, and left a legacy of knowledge.

(To borrow this book email library@energylibrary.org.nz Ref: **07Bernstein**)

The point at issue: petroleum energy politics in New Zealand, 1955-90.

Paterson, Mike. Auckland: Collins (1991).

A history of both the development of the Marsden Point refinery, and a hot political issue. Oil is frequently the cause of major political upsets, sometimes even wars, but the Marsden Point refinery became known for industrial unrest.

(To borrow this book email library@energylibrary.org.nz Ref: **07Paterson**)

Analysis and modelling needs of power systems under major frequency disturbances. Task Force 38.02.14 CIGRE Technical brochure 148. Paris: CIGRE
Chapters cover the analysis of major frequency disturbances, behaviour of power system components during frequency disturbances, means to improve the system frequency behaviour etc.

(To borrow this report email library@energylibrary.org.nz Ref: CIGRE148)

Peter Drucker is regarded as a seminal writer in the field of management. He published his first book in 1939; he has written 35 books, including 15 dealing with management. He died in November 2005. There are several books by Drucker in the collection - these are two which might be of interest:

The age of discontinuity: guidelines to our changing society.

Drucker, Peter F. London, UK: Heinemann. (1969).

It is interesting to see the discontinuities that Drucker foresaw in 1969 as affecting the future of society; while the evidence and immediate effects of these are now taken for granted, lessons can still be learned about how individuals, organizations, economies and society, can adapt to the effects.

(To borrow this book email library@energylibrary.org.nz Ref: 07Drucker1)

The practice of management. Drucker, Peter F. London, UK.: Heinemann. (1955).

Drawing on his experience with major companies such as Ford and IBM, Drucker explores the practice of management; some chapters are timeless, e.g. "Motivating to peak performance".

(To borrow this book email library@energylibrary.org.nz Ref: 07Drucker2)

Web and news resources

New Zealand

Energy Library has access to some great electronic databases, including some that contain NZ and Australian newspapers (some titles going back quite a few years). These are helpful when you want access to an article that is no longer available on a news website. We can search these databases on your behalf, either to locate a specific article or to do a general search to see what has been reported on your topic of interest.

Distributed generation is recognised internationally as an alternative to centralised power generation and distribution. While the concept is gathering support in New Zealand, practical examples are slow to materialise. Read the [CAE Press Release](#).

Two forthcoming New Zealand conferences:

[4th Annual gas industry summit](#): 25th and 26th September 2006, Intercontinental, Wellington. Discussing and debating the key supply and regulatory challenges facing the New Zealand gas industry. A wide range of issues will be discussed, from exploration, to the gas market, and New Zealand's energy plan.

[Decision Making in Uncertain Times](#): 3rd National Conference on Risk Management. SKYCITY Convention Centre, Auckland. 18-19 October 2006. The New Zealand Society for Risk management Inc. Papers cover managing risk in a variety of fields.

International

The press release for the [UK government's new Energy review](#) highlights two big challenges- climate change and the need to provide secure cleaner energy at affordable prices. It also highlights the need for more efficient energy management, and a move towards localised and renewable energy sources.

The new IEA report, "Energy technology perspectives 2006: Scenarios and strategies to 2050" has just been released. The [IEA Press Release](#) explains that if the world wants to reverse the current unsustainable energy trends, huge investments in new technologies will be needed.

The greenhouse effect is a concern for all who are aware of the fragility of the future of life on our planet. The high global warming potential of SF₆, a gas used in the electricity industry, became known in 1995. [SF₆ in the electricity industry, status 2000](#) is a CIGRE working group paper that assesses data on the gas, both for today and the long term. [CIGRE](#) has very useful publications.

Food for thought

A British water firm has seriously considered [towing icebergs](#) from the Arctic to London after the country has had 2 dry winters in a row. And is the Hummer going solar? Well [slightly](#)....

And finally: To be in to win a **king-size bar of energy chocolate** [email us](#) the answer to the following question (put "Competition" in the subject line. Draw closes August 4th):

In which country was the world's first geothermal power station opened in 1913?