

## IPENZ ENGINEERING UPDATE October 2009



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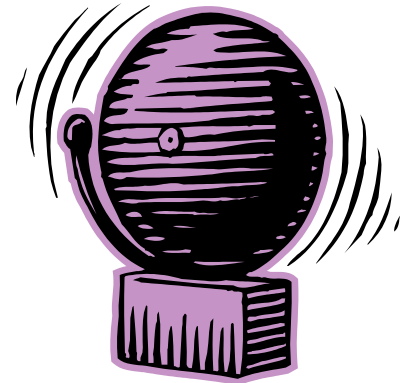
## Management/Leadership/Strategic Planning/Recruitment/Training and Development/Project Management/Corporate Responsibility

√IPENZ 29/01 **The meaning of ‘Build Back Better’: Evidence from post-tsunami Aceh and Sri Lanka.**  
Kennedy, J et al. *Journal of Contingencies & Crisis Management*, Volume 16 Issue 1 (March 2008)  
Pages 24-36.

The tagline of many groups involved in reconstruction following the 26 December 2004 Indian Ocean tsunami disaster was ‘build back better’ (or ‘building back better’). This paper considers settlement and shelter in post-tsunami Aceh and Sri Lanka to investigate how the theory and practice of ‘build back better’ were applied. Four areas were examined (1) safety, security and livelihoods; (2) connections with permanent housing and communities; (3) equity and fairness; (4) addressing root cause of vulnerability. Recommendations for implementing ‘build back better’ include (1) Community involvement is necessary but may not mean community control; (2) Involved organisations should consider capacity and links to other sectors; (3) Long-term planning and disaster risk reduction are needed. In light of the many interpretations of ‘better’, a preferable tagline might be ‘building back safer’.

√IPENZ 29/02 **Analysing emergency response systems.**  
Johansson, U and Fredholm, L. *Journal of Contingencies & Crisis Management*, Volume 16 Issue 2 (June 2008) Pages 80-90.

This paper puts forward a method utilising a systems perspective for analysing an emergency response system. The authors present and discuss results of an investigation into an emergency response system so as to demonstrate how the method can be applied.



√IPENZ 29/03 **Impact of stress on the performance of construction project managers.**

Leung, M., Chan, Y and Olomolaiye, P. *Journal of Construction Engineering & Management*. Volume 134 Issue 8 (August 2008) Pages 644-652.

Construction project managers (CPMs) do work that is often very stressful as a result of time pressures and the uncertainties of construction projects. This investigation aims to examine the impact of stress on how CPMs perform by uncovering the connections between different kinds of stress (i.e. objective stress, burnout and physiological stress) and performance (i.e. task, interpersonal and organisational performance). The 108 CPMs from whom data were collected work in a range of construction sectors, such as prime contractors, subcontractors, developers, consultant firms and the public sector. The authors recommend that in order to optimise the stress and performance of CPMs, stakeholders regularly review job allocation, that there are stress appraisals and assistance is given to help manage stress.

√IPENZ 29/04 **Analyzing the effectiveness of contemporary aging workforce management : The case of Daimler AG.**

Streb, C and Voelpel, S. *Organizational Dynamics*, Volume 38, Issue 4 (October-December 2009)  
Pages 305-311.

**√IPENZ 29/05 Making time off: Predictable & required.**

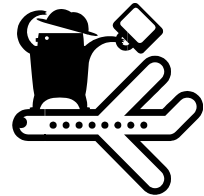
Perlow, L and Porter, J. Harvard Business Review, Volume 87 Issue 10 (October 2009) Pages 102-109.

People in professional services believe a 24/7 work ethic is essential for getting ahead – and so they work 60-plus hours a week and stay tethered to their Black- Berrys. This perpetuates a vicious cycle: Responsiveness breeds the need for more responsiveness. When people are always "on," responsiveness becomes ingrained in the way they work, expected by clients and partners, and even institutionalized in performance metrics. There is no impetus to question whether the work actually requires 24/7 responsiveness; on the contrary, people work harder and longer, without stopping to explore how they could work better. But four years of research conducted by the authors in several North American offices of the Boston Consulting Group suggests that consultants and other professionals can provide the highest standards of service and still have planned, uninterrupted time off. They can do this even in times of recession. In this article, Perlow and Porter outline the lessons from BCG's implementation of predictable time off – namely, impose a strict mechanism for taking days and nights off, encourage lots of talk about what's working and what isn't, promote experimentation with different ways of working, and insist on top-level support.

**√IPENZ 29/06 Three keys to getting an overseas assignment right.**

Clouse, M and Watkins, M. Harvard Business Review, Volume 87 Issue 10 (October 2009) Pages 115-119.

An international assignment can be among the most exciting and challenging transitions that an aspiring leader can undertake. With the right planning and attitudes, taking on that kind of leadership role can stretch capabilities, challenge assumptions, and steer both people and profits in a positive direction. But an expat assignment can also be a harrowing journey. Indeed, if they've never made an international move before, emerging leaders can fall into common traps that can severely stress their family bonds, negatively affect their performance at work, damage their businesses, and even lead to outright career derailment. In this article, Clouse, the managing director of Kraft Foods Brazil, and Watkins, the author of *The First 90 Days: Critical Success Strategies for New Leaders at All Levels*, offer three best practices for handling the personal-change challenges that go along with an overseas assignment. Settling the family in, adapting your communication style, and ensuring that you understand the new regulatory environment you're operating in are all critical for a successful transition, they advise.

**√IPENZ 29/07 Women's advancement: One engineering firm's pathway to leadership.**

Ibison, M and Bailey, B. American Water Works Association. Journal, Volume 101 Issue 8 (August 2009) Pages 44-

For CH2M HILL, attracting, developing and retaining a diverse workforce is of utmost importance and a prime focus of its CEO and executive and management teams. The company aims to be the most diverse in the sector and the best place to work.

**√IPENZ 29/08 Widening the net: National estimates of gender disparities in engineering.**

Cosentino de Cohen, C. and Deterding, N. Journal of Engineering Education, Volume 98 Issue 3 (July 2009) Pages 211-226.

√IPENZ 29/09 **Design professionals' legal risks increased under nature's attack: Chichi Earthquake experience.**

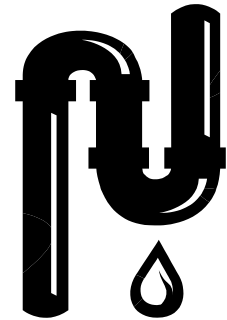
Yu-Lin Huang, Shih-Hung Chang. International Journal of Project Management, Volume 27 Issue 6, (August 2009) Pages 544-551.

This paper aims to examine increases in professional liability for architectural and engineering (A/E) professionals following quantitative changes in litigation risks after the Chichi Earthquake. The methodology uses t-tests and ANOVA to analyse the impact of the earthquake with regard to (1) the number of A/E litigations, (2) the type of plaintiff, (3) court decisions, and (4) the scope of A/E activities or practices challenged by litigation. Our results showed the risk of liability lawsuits increased significantly, and lawsuits were more persistent after the earthquake. The professional liability risk seemed to intensify in higher courts. The risks of both professional liability and criminal indictment by public prosecutors were increased.

√IPENZ 29/10 **Application of a sustainability model for assessing water main replacement options.**

Koo, D and Ariaratnam, S. Journal of Construction Engineering & Management, Volume 134 Issue 8 (August 2008) Pages 563-574.

Sustainable development, conceived as a new and multidisciplinary paradigm, is receiving much attention throughout the global community. The purpose of this paper is to apply the sustainability assessment model (SAM), an assessment and decision making methodology, to a water main replacement project in an urban environment to determine the most sustainable project alternative among three possible options. This case study presents the use of SAM in considering various multicriteria sustainability indicators while working towards achieving sustainability enhancement. Objectives of sustainability enhancement include: (1) minimizing environmental impact; (2) maximizing economical benefit and output; (3) social and cultural conservation and promotion; and (4) satisfying basic requirements such as structural soundness and capacity. Six assessment methods including the analytic hierarchy process, cost, pollution, energy, time estimation, and natural resource depletion analysis are used for both qualitative and quantitative sustainability indicators. The weighted sum model is then utilized to integrate the six independent assessment results to elicit the final decision.



√IPENZ 29/11 **Conceptualising the perceived service quality of public utility services: A multi-level, multi-dimensional model.**

Changhong B et al. Total Quality Management & Business Excellence, Volume 19 Issue 10 (October 2008) Pages 1055-1070.

Using the data collected by a personally administered on-site survey, the authors work out a model to assess the perceived service quality of public utility services (water, natural gas, electricity and thermoelectricity). In addition to providing a conceptual model, the study also provides insights and advice for managers, government officials and community policymakers with regard to measuring and managing quality in public utility firms.

√IPENZ 29/12 **More with less: the 80/20 rule of PM.**

Lammers, M and Tsvetkov, N. MultiLingual, Volume 19 Issue 5 (July 2008) Pages 37-40.

The paper considers Pareto's Principle or the 80/20 rule in terms of project management (PM) whereby 20 percent of the PM work results in 80 percent return in investment (ROI). It appears the principle is useful and a basic guide for managing quality and risk.

√**IPENZ 29/13 Development and implementation of collaborative and integrated cost management tools in a global energy company.**

Stein, R. AACE International Transactions (2008) Pages IT21-IT27.

General Electric Co. (GE) is regarded as one of the biggest original equipment manufacturers (OEM) of power generation equipment globally and also supplies major power plant equipment. This article considers how collaborative and integrated cost management tools were developed and implemented for major energy projects.

√**IPENZ 29/14 Twitter 101: Are you tweeting?**

Conner, M. T+D, Volume 63 Issue 8 (August 2009) Pages p24-27.

Twitter, which uses 140-character messages to microblog, is discussed. These brief messages can connect people with shared interests, although there is also some scepticism.

√**IPENZ 29/15 Measuring what matters: How CEOs view learning success.**

Phillips, J and Phillips, P. T+D, Volume 63 Issue 8 (August 2009) Pages p44-49.

A critical issue in the learning and development field is measuring the success of learning and development, especially as top executives are interested in data about the business contribution. Despite heightened interest and the progress that has been made, this issue remains a challenge. The key is the top executive group as the most important stakeholder. Learning and development leaders who have been implementing successful evaluation systems and informing executives of results have gained strong support from the senior management team.

√**IPENZ 29/16 Predictors of management development effectiveness: an Australian perspective.**

D'Netto, B., Bakas, F and Bordia, P. International Journal of Training & Development, Volume 12 Issue 1 (March 2008) Pages 2-23.

Organisations looking to attract and retain talented staff are increasingly looking to management development. The current state of management development in Australia is evaluated in this study, with a particular focus on identifying variables linked with management development effectiveness by developing and testing a model. Data came from 206 managers in 153 organisations representing 18 industries. What was observed fitted well with the predicted model. The two variables that associated most closely with management development effectiveness were link to corporate strategy and opportunities to utilise skills. What this means for enhancing management development effectiveness is discussed.

√**IPENZ 29/17 Leader levity: The Effects of a leader's humor delivery on followers' positive emotions and creative performance.**

Hughes, L. Journal of Behavioral & Applied Management, Volume 10 Issue 3 (May 2009) Pages 415-432.

√**IPENZ 29/18 Three ways to be more persuasive.**

Ross, J. Harvard Management Update, Volume 13 Issue 12 (December 2008) Pages 1-4.

**√IPENZ 29/19 Stephen P. Timoshenko.**

Weingardt, R. Leadership & Management in Engineering; Oct2008, Volume 8 Issue 4 (October 2008) Pages 309-314.

The article profiles engineer Stephen P. Timoshenko. It features his accomplishments as a writer, educator, and engineer, which greatly impacted engineering education in the U.S. Details on his personal life and achievements along with his seminal books and papers on the mechanics of materials, statistics and dynamics are given.

## Technical Aspects of Engineering (Abstracts can be supplied upon request)

**√IPENZ 29/20 Piling it on: Engineering calculations today.**

Mote, R. Canadian Consulting Engineer, Volume 50 Issue 5 (August/September 2009) Pages 29-38.

Reflections on the role of calculations in engineering practice. The author suggests that this is an area which requires improvement.

**√IPENZ 29/21 An experimental study on punching shear behavior of concrete slabs.**

Alam, A., Amanat, K. and Seraj, S. Advances in Structural Engineering, Volume 12 Issue 2 (April 2009) Pages 257-265.

**√IPENZ 29/22 Mechanics and slenderness limits of sway-restricted reinforced concrete columns.**

Hellesland, J. Journal of Structural Engineering, Volume 134 Issue 8 (August 2008) Pages 1300-1309.

**√IPENZ 29/23 Behavior of cylindrical steel shells supported on local brackets.**

Doerich, C. and Rotter, J. Journal of Structural Engineering, Volume 134 Issue 8 (August 2008) Pages 1269-1277.

**√IPENZ 29/24 Strength predictions of pile caps by a strut-and-tie model approach.**

Park, J., Kuchma, D. and Souza, R. Canadian Journal of Civil Engineering, Volume 35 Issue 12 (December 2008) Pages 1399-1413.

**√IPENZ 29/25 Influence of bolted-joint slippage on the response of transmission towers subjected to frost-heave**

Ahmed, K., Rajapakse, R. and Gadala, M. Advances in Structural Engineering, Volume 12 Issue 1 (December 2009) Pages 1-17.

√IPENZ 29/26 **Overview of earthquake resisting system design and retrofit strategy for bridges in Illinois.**

Tobias, D. and others. Practice Periodical on Structural Design & Construction, Volume 13 Issue 3 (August 2008) Pages 147-158.

√IPENZ 29/27 **Tower's private "sky" garages bring the burbs to the 'urbs"**

First multi level residential building in the United States to include separate parking rooms outside each apartment.

ENR (10 August 2009) Pages 17-18.

√IPENZ 29/28 **Investigation of the applicability of AASHTO LRFD live load distribution equations for integral bridge substructures.**

Erhan, S. and Dicleli, M. Advances in Structural Engineering, Volume 12 Issue 4 (August 2009) Pages 559-578.

√IPENZ 29/29 **Seismic fragility analysis of frame structures.**

Lin, J. H. International Journal of Structural Stability & Dynamics, Volume 8 Issue 3 (September 2008) Pages 451-463.

√IPENZ 29/30 **Shake-table tests prove "rocking" frame.**

Post, N. ENR (14 September 2009) Pages 90-92.

Seismic design: Steel frames.

√IPENZ 29/31 **Free cooling using water-side economizer: Process cooling application at a plastic extrusion plant.**

Wathaifi, M. Energy Engineering, Volume 106 Issue 6 (2009) Pages 45-66,69-78.

√IPENZ 29/32 **Cogeneration – Combining flexibility and high levels of efficiency.**

Frejman, M. and Rajewski, A. Power Engineering International, Volume 17 Issue 9 (2009) Pages 68-70.

√IPENZ 29/33 **Waste heat recovery.**

Zolkowski, J. Energy Engineering, Volume 106 Issue 5 (2009) Pages 63-66,69-74.

Case studies from a manufacturing plant.

√IPENZ 29/34 **Industrial fluid contaminants and their effect.**

Johnson, M. Tribology & Lubrication Technology, Volume 65 Issue 9 (2009) Pages 26-28,30-31.

√IPENZ 29/35 **Construction, performance, and thermal design of plate heat exchangers.**

Mehrabian, M. Proceedings of the Institution of Mechanical Engineers: Part E Journal of Process Mechanical Engineering, Volume 223 Issue E3 (2009) Pages 123-131.

√IPENZ 29/36 **Enhancement of heat exchanger control using improved PID controller.**

Sensors & Transducers, Volume 107 Issue 8 (2009) Pages 144-156.

√IPENZ 29/37 **The case of hurry up and wait... Premature rusting of newly coated structural steel in a chemical plant.**

Rutherford, B. and Burgess, R. Journal of Protective Coatings & Linings (2009) Pages 12-15.

√IPENZ 29/38 **The effect of heat loss on the performance of a solar-driven heat engine.**

Sogut, O. and Durmayaz, A. Proceedings of the Institution of Mechanical Engineers: Part C Journal of Mechanical Engineering Science, Volume 223 Issue C7 (July 2009) Pages 1615-1621.

√IPENZ 29/39 **Hydraulic optimization of a combined sewer overflow (CSO) storage facility using numerical and physical modelling.**

Canadian Journal of Civil Engineering, Volume 36 Issue 2 (February 2009) Pages 363-373.

√IPENZ 29/40 **Beach replenishment: Lessons of past hurricanes help build stronger beach.**

Bergeron, A. ENR (3 August 2009) Page 14.

√IPENZ 29/41 **Hazardous waste: Just-in-time dredging pulls out toxins.**

Larson, M. ENR (3 August 2009) Pages 24-27

√IPENZ 29/42 **Regression models for the prediction of water quality in the stormwater of urban arid catchments.**

Nouh, M. and Al-Noman, N. Canadian Journal of Civil Engineering, Volume 36 Issue 2 (February 2009) Pages 331-345.

√IPENZ 29/43 **Prediction of effluent quality from retention ponds and constructed wetlands for managing bacterial stressors in storm-water runoff.**

Struck, S., Selvakumar, A. and Borst, M. Journal of Irrigation & Drainage Engineering, Volume 134 Issue 5 (September 2008) Pages 567-578.

√IPENZ 29/44 **Storm-damaged saline-contaminated boreholes as a means of aquifer contamination.**

Carlson, D., Van Biersel, T. and Milner, L. Ground Water, Volume 46 Issue 1 (January 2008) Pages 69-79.

√IPENZ 29/45 **Global climate change and the mitigation challenge.**

Princiotta, P. Journal of the Air & Waste Management Association, Volume 59 Issue 10 (October 2009) Pages 1194-1211.

√IPENZ 29/46 **Accounting for risk in valuing forest carbon offsets.**

Hurteau, M. and Hungate, B. Carbon Balance & Management, Volume 4 (2009) Pages 1-5.

√IPENZ 29/47 **Forest management and climate change mitigation: Good policy requires careful thought.**

Maness, T. C. Journal of Forestry, Volume 107 Issue 3 (April/May 2009) Pages 119-124.



√IPENZ 29/48 **From waste to resource.**

Corbett, R. Canadian Consulting Engineer, Volume 50 Issue 4 (June/July 2009) Pages 36-38.  
Use of sewage waste.

√IPENZ 29/49 **Individual trip destination estimation in a transit smart card automated fare collection system.**

Trépanier, M., Tranchant, N. and Chapleau, R. Journal of Intelligent Transportation Systems, Volume 11 Issue 1 (January/March 2007) Pages 1-14.

√IPENZ 29/50 **Intelligent transportation systems: What do publications and patents tell us?**

Yingling Fan, Khattak, A. J. and Shay, E. Journal of Intelligent Transportation Systems, Volume 11 Issue 2 (April/June 2007) Pages 91-103.

√IPENZ 29/51 **Web-based guide to transportation benefit-cost analysis.**

Sullivan, E. and others. Journal of Transportation Engineering, Volume 134 Issue 7 (July 2008) Pages 282-286.

√IPENZ 29/52 **Ebb-jet dynamics and transient eddy formation at Tauranga Harbour: Implications for entrance channel shoaling.**

Spiers, K. Healy, T., and Winter, C. Journal of Coastal Research, Volume 25 Issue 1 (January 2009) Pages 234-247.

√IPENZ 29/53 **Recurrent polynomial neural networks for enhancing performance of GPS in electric systems.**

Mosavi, M. R. Wireless Sensor Network, Volume 1 Issue 2 (July 2009) Pages 95-103.

√IPENZ 29/54 **Identifying sources of surface water pollution: A toolbox approach.**

Plummer, J.. and Long. S. American Water Works Association Journal, Volume 101 Issue 9 (September 2009) Pages 75-88,16.

√IPENZ 29/55 **Occurrence and removal of amino acids during drinking water treatment.**

Dotson, A. and Westerhoff, P. American Water Works Association Journal, Volume 101 Issue 9 (September 2009) Pages 101-115,18.

√IPENZ 29/56 **Evaluation of solute mixing in water distribution pipe junctions.**

Ho, C. and O'Rear, L. American Water Works Association Journal, Volume 101 Issue 9 (September 2009) Pages 116-127,18.

√IPENZ 29/57 **Enhancement of sludge settling with chemical additives.**

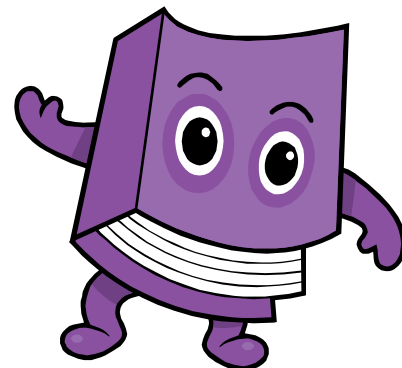
Al-Jasser, A. O. Water Environment Research, Volume 81 Issue 9 (September/October 2009) Pages 849-857.

√IPENZ 29/58 **Method development for measuring biodegradable dissolved organic nitrogen in treated wastewater.**

Khan, E. and others. Water Environment Research, Volume 81 Issue 8 (August 2009) Pages 779-787.

## Books held in Energy Library

(These can be borrowed directly by Energy Library members or via interlibrary loan by non members.)



√IPENZ 29/59 **The professional risk managers' guide to the**

**energy market.** Fusaro, Peter C. (ed). New York: Professional Risk Managers' International Association (PRMIA), 2008 This is a comprehensive reference book for all financial professionals affected by energy prices. Over twenty experts from around the world discuss every aspect of energy trading and the risks associated with specific investment vehicles and energy sectors.

√IPENZ 29/60 **The investor's guide to geothermal energy: How to capitalize on the heat beneath your feet.** (2008). Eggl, Birgit; Sametinger, Kai. Freiburg: FORSEO

We asked Brian White, Executive Officer of the New Zealand Geothermal Association to review this book for our members:

*The Energy Library asked me to read and review FORSEO's "The Investor's Guide to Geothermal Energy" several months ago. I have been reluctant to return it knowing there is more gold to be extracted from its pages. The Guide comes at the right time in that it captures a range of policy and development initiatives across a wide range of countries just as the value of geothermal investment is being recognised more widely by Governments and investors. To quote one analyst, Mark Taylor "The industry is on the cusp of what could be an extraordinary growth period." From an historical perspective it acts as a snapshot of geothermal investment in this transitional time. The book does cover geothermal systems and technology in a simple way for the lay reader. An expert might feel uncomfortable with the degree of simplification at times, but the book achieves a goal of making a link between the geothermal resource and potential investors. The Investor's Guide is set out in a logical fashion but with suitably placed inserts giving pithy developers' accounts or more detailed insights. Thus it can be read in blocks or just in snatches during a busy day. This is not the book to read if you are after the latest insights into New Zealand development, though we are regularly mentioned through its pages. The New Zealand treatment may reflect the author's selective treatment of any country covered. However, as New Zealand investors and financiers read this Guide, they will be made aware of a wider range of financing options than currently appear to be available here, and possibly of other offshore financing interests to tap. If this does help to broaden options for finance for potential New Zealand investors then it will be particularly useful. Brian White Executive Officer New Zealand Geothermal Association.*

√IPENZ 29/61 **Geothermal reservoir management: [seminar papers].** Malate, Cedric et al., 2008 From the International Geothermal Association, Western Pacific Regional Branch (IGA, WPRB), and New Zealand Geothermal Association (NZGA) held at Taupo, N.Z. on August 25, 2008. The majority of this volume is presentation slides but there are also 2 full conference papers: Well intervention techniques: The EDC experience. The management of geothermal resource: The EDC experience

√IPENZ 29/62 **Natural gas market review 2008: Optimising investments and ensuring security in a high-priced environment.** Paris, France: OECD/IEA, 2008 This review looks at the global rise in natural gas prices and assesses the investments in natural gas projects. It predicts LNG will play a stronger role in all OECD regional markets.

√IPENZ 29/63 **Profiting from clean energy: A complete guide to trading green in solar, wind, ethanol, fuel cell, power efficiency, carbon credit industries, and more.** Asplund, Richard W. Hoboken, N.J.: Wiley, 2008 This book provides a complete guide for investors on how to profit from the fast growing clean energy sector. The author analyses investment opportunities in bio-fuels/ethanol, solar power, wind power, fuel cells, geothermal, clean fossil fuel technologies, and power efficiency.

√IPENZ 29/64 **Safety manual: Electricity industry: Requirements for safety in the New Zealand electricity generation, transmission and distribution industry (SM-EI). Part 3: Rules for work on equipment.** 2nd ed. Electricity Engineers' Association of New Zealand (EEA). Wellington: EEA, 2009

√IPENZ 29/65 **Energy security and climate policy: Assessing interactions.** Paris: OECD/IEA, 2007

√IPENZ 29/66 **CO2 capture and storage: A key carbon abatement option.** Paris: IEA/OECD, 2008  
In an environmentally-conscious world, the predicted increase in carbon dioxide emissions is causing widespread alarm. Technologies that help reduce CO2 emissions are very important; of these, carbon capture and storage appears promising. This book looks at the technologies being developed in the various energy sectors and in industry. It looks at CO2 transport and storage, and also examines financial, legal, regulatory and public acceptance issues. A large part of the book gives CCS regional and country updates.

√IPENZ 29/67 **Keeper of the long view: Sustainability and the PCE.** Young, David. Wellington: Parliamentary Commissioner for the Environment, 2007  
The author was commissioned to write a history of the Parliamentary Commissioner for the Environment to commemorate the office's twentieth anniversary. He draws on interviews with over 20 prominent interviewees engaged in the business of sustainability and the environment.

√IPENZ 29/68 **Transportation energy data book (27th ed)** Davis, S.; Diegel, S. W. Oak Ridge: ORNL, 2008  
A statistical compendium of data on transportation activity and use in the United States.

√IPENZ 29/69 **The evolution of electric power transmission under deregulation: Selected readings.** Casazza, John A. (ed). Loehr, George C. (ed). Piscataway: IEEE, 2000  
Papers on transmission systems from a wide variety of publications. Areas covered include: deregulation issues; transmission system planning and design; transmission system operation; transmission transfer capacity; reliability; transmission system components and research.

√IPENZ 29/70 **House insulation guide:** Third edition. Porirua: BRANZ, 2007

## Standards held in Energy Library

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√IPENZ 29/71 **AS 2067: 2008 Substations and high voltage installations exceeding 1 kV a.c.** Standards Australia, 2008



√IPENZ 29/72 AS/NZS 2381.1: 2005. Electrical equipment for explosive atmospheres: Selection, installation and maintenance: Part 1: General requirements. Incorporating amendments 1, 2 and 3

√IPENZ 29/73 AS/NZS 61000.4.2: 2002. Electromagnetic compatibility (EMC) - Testing and measurement techniques - Electrostatic discharge immunity test.

√IPENZ 29/74 CSA S37-01: 2001 Antennas, Towers, and Antenna-Supporting Structures (Reaffirmed 2006). Revised ed. Toronto: Canadian Standards Association  
This Standard applies to structural antennas, towers, antenna-supporting structures, and roof- and wall-mounted structures, including their components, such as guys and foundations.

√IPENZ 29/75 IEC 60376: 2005. Specification of technical grade sulfur hexafluoride (SF<sub>6</sub>) for use in electrical equipment. 2nd ed.

√IPENZ 29/76 IEC 61109: 2008. Insulators for overhead lines: Composite suspension and tension insulators for a.c. systems with a nominal voltage greater than 1000 V: Definitions, test methods and acceptance criteria. 2nd edition.

√IPENZ 29/77 IEC 61467: 2008. Insulators for overhead lines: Insulator strings and sets for lines with a nominal voltage greater than 1000 V - AC power arc tests.

√IPENZ 29/78 IEEE C37.102: 2006. IEEE guide for AC generator protection. This guide is mostly concerned with protection against faults and abnormal operating conditions for large hydraulic, steam, and combustion turbine generators.

√IPENZ 29/79 ISO 7194: 2008. Measurement of fluid flow in closed conduits - Velocity-area methods of flow measurement in swirling or asymmetric flow conditions in circular ducts by means of current-meters or Pitot static tubes.

√IPENZ 29/80 ISO 9001: 2008. Quality management systems: Requirements. 4th ed.

√IPENZ 29/81 IEC TR 61400-24: Wind turbine generator systems - Part 24: Lightning protection. (2002)  
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