

IPENZ ENGINEERING UPDATE March 2011



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- Opportunities and barriers to pumped-hydro energy storage in the United States.

➤ Special Focus : Succession Planning

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

√IPENZ 44/01 Clearing the utilities on time and under budget.

Sweeney, M. Leadership & Management in Engineering, Volume 10, Issue 1 (January 2010) Pages 16-20.

Serious schedule and budget busters are lurking just below the surface in the path of your project. How does a project manager avoid disastrous collisions with underground utilities or a deadlock with the utility owner when the project momentum is threatened by an impassable underground structure? Overcoming this challenge requires the project owner and management staff to establish an early relationship with each utility owner, to develop and execute Utilities Agreements with those owners, and to organize and implement a detailed Utility Coordination Work Plan. The Utilities Agreement requires the project owner and the utilities owner to sign off on costs, schedule, responsibilities, rights, and remedies associated with clearing the interfering utilities. The Utilities Coordination Work Plan is a step-by-step process to organize and track the clearance of interfering utilities, and includes the Utilities Coordination Report, which is a key complement to the Utilities Relocation Design Plan.

√IPENZ 44/02 A rough ride on the O'ahu rail transit project.

Genadio, F. and Singh, A. Leadership & Management in Engineering, Volume 10, Issue 1 (January 2010) Pages 21-31.

This article covers the long political process that has brought the City and County of Honolulu to the verge of implementing a steel-on-steel rail transit system designed for a corridor that includes about half of the commuters on the island of O'ahu, Hawaii, and perhaps two-thirds of the workforce. The process has been far from smooth, and has been characterized by factional politics and manipulation of transit supporters who were looking for the best system to implement but were disappointed. The authors discuss what they believe would have been best, a magnetic levitation rail transit system known as the HSST. The article covers a brief history of the HSST, relevant technical aspects of magnetic levitation, and the politics and electioneering of rail in the City and County of Honolulu. Though a large project such as rail will bring jobs to the island, understanding how difficult it is to undertake a large construction project given the lobbies, the vested interests and political leanings must be taken into consideration

√IPENZ 44/03 Extreme negotiations.

Weiss, J., Donigian, A. and Hughes, J. Harvard Business Review, Volume 88, Issue 11 (November 2010) Pages 66-75.

CEOs and other senior executives must make countless complex, high-stakes deals across functional areas and divisions, with alliance partners and critical suppliers, and with customers and regulators. The pressure of such negotiations may make them feel a lot like U.S. military officers in an Afghan village, fending off enemy fire while trying to win trust and get intelligence from the local populace. Both civilian and military leaders face what the authors call "dangerous negotiations," in which the traps are many and good advice is scarce. Although the sources of danger are quite different for executives and officers, they resort to the same kinds of behaviors. Both feel pressure to make quick progress, project strength and control (particularly when they have neither), rely on force rather than collaboration, trade resources for cooperation rather than build trust, and make unwanted compromises to minimize potential damage. The authors outline five core strategies that "in

extremis" military negotiators use to resolve conflicts and influence others: maintaining a big-picture perspective; uncovering hidden agendas to improve collaboration; using facts and fairness to get buy-in; building trust; and focusing on process as well as outcomes. These strategies provide an effective framework that business executives can use to prepare for a negotiation and guide their moves at the bargaining table.

√IPENZ 44/04 **Attitude-based strategic negotiation for conflict management in construction projects.**

Yousefi, S., Hipel, K. W. and Hegazy, T. Project Management Journal, Volume 41, Issue 4 (September 2010) Pages 99-107.

√IPENZ 44/05 **What brain science tells us about how to excel.**

Hallowell, E. M. Harvard Business Review, Volume 88, Issue 12 (December 2010) Pages 123-129. Millions of people are struggling at work. Some are in the wrong jobs. Others feel no connection to their colleagues or engagement with their tasks. The result is rampant dissatisfaction and underachievement. Hallowell, a child psychiatrist specializing in learning differences, describes the Cycle of Excellence, a plan for helping people achieve peak performance. It consists of five steps: Select a job that reflects what you like to do and what you do best and that adds value to the organization. Research has shown that good job fit reduces stress and increases satisfaction and performance. Connect with the people around you. Robust relationships in the workplace galvanize people and build their engagement with their jobs. Small talk may seem trivial, but it pays big dividends. Play on the job. It sounds like an oxymoron, but people do their best-and are most satisfied- when they're imaginatively involved with their work. And when you're hard at play, you're building your brain. Grapple and Grow-that is, work hard to achieve a difficult task. The stress you may feel as you engage with a tough assignment and connect with others to complete it is not the toxic kind. Shine in the acknowledgment of your achievements. Praise releases chemicals that make us feel good, and it fills our uniquely human need to be of value, to matter. If you aren't getting it, ask for it. The need for recognition is fundamental to optimal human performance.



√IPENZ 44/06 **Brain break: Understanding the influence of brain functions on organizational effectiveness.**

Buch, K. T+D, Volume 64, Issue 5 (May 2010) Pages 42-47.

√IPENZ 44/07 **Staff walking program: A quasi-experimental trial of maintenance newsletters to maintain walking following a pedometer program.**

Borg, J., Merom, D. and Rissel, C. Health Promotion Journal of Australia, Volume 21, Issue 1 (1 April 2010) Pages 26-32.

√IPENZ 44/08 **Getting fit with corporate wellness programs.**

Brewer, P. C., Gallo, A. and Smith, M. R. Strategic Finance, Volume 91, Issue 11 (May 2010) Pages 27-33.

√**IPENZ 44/09 What's the hard return on employee wellness programs?**

Berry, L. L., Mirabito, A. M. and Baun, W. B. Harvard Business Review, Volume 88, Issue 12 (December 2010) Pages 104-112.

Employee wellness programs have often been viewed as a nice extra, not a strategic imperative. But the data demonstrate otherwise, according to Berry, of Texas A&M University; Mirabito, of Baylor University; and Baun, of the University of Texas MD Anderson Cancer Center. Their research shows that the ROI on comprehensive, well-run employee wellness programs is impressive, sometimes as high as six to one. To achieve those kinds of results, employers cannot merely offer workers a few passes to a fitness center and nutrition information in the cafeteria. The most successful wellness programs are supported by six essential pillars: engaged leadership at multiple levels; strategic alignment with the company's identity and aspirations; a design that is broad in scope and high in relevance and quality; broad accessibility; internal and external partnerships; and effective communications. Companies in a variety of industries-including Johnson & Johnson, Lowe's, H-E-B, and Healthwise-have built their employee wellness programs on all six pillars and have reaped big rewards in the form of lower costs, greater productivity, and higher morale. Those benefits are not easy to achieve, and verifiable paybacks are never a certainty. But the track record inspires emulation, especially when you see the numbers.

√**IPENZ 44/10 The unwritten laws of engineering.**

King, W. J. and Skakoon, J. G. Mechanical Engineering, Volume 132, Issue 12 (December 2010) Pages 43-47.

The article discusses the personal and professional laws which contribute to the emotional competencies and performance of engineers. According to the book of David Goleman, emotional competencies such as communication skills, interpersonal skills, and integrity are more important in achieving excellence rather than cognitive and technical intellect. It notes that one valuable personal trait which boosts performance is the ability to get along with all kinds of people which can be achieved through formulas such as appreciation of good qualities and consideration of others' feelings. It also explores factors to consider for the behavior in the workplace which include the awareness of one's appearance and carefulness in writing letters and messages.

√**IPENZ 44/11 The philosophy of engineering: A critical summary.**

Hillier, J. Proceedings of the Institution of Civil Engineers: Civil Engineering, Volume 163, Issue CE2 (May 2010) Pages 91-95.

√**IPENZ 44/12 Construction management frameworks: 10 years of experience.**

Ansell, M and Smith, S. Proceedings of the Institution of Civil Engineers: Civil Engineering, Volume 163, Issue CE1 (February 2010) Pages 41-47.

TECHNICAL ASPECTS OF ENGINEERING.

Abstracts for most are available on request.

√IPENZ 44/13 **Cyclic response of precast high-performance fiber-reinforced concrete infill panels.**
Olsen, E. C. and Billington, S. L. ACI Structural Journal, Volume 108, Issue 1 (January/February 2011)
Pages 51-60.

√IPENZ 44/14 **Direct displacement-based design of seismically isolated bridges.**
Cardone, D., Dolce, M. and Palermo, D. Bulletin of Earthquake Engineering, Volume 7, Issue 2 (May 2009) Pages 391-410.

√IPENZ 44/15 **Seismic response of a RC frame building designed according to old and modern practices.**
Rozman, M. and Fajfar, P. Bulletin of Earthquake Engineering, Volume 7, Issue 3 (August 2009)
Pages 779-799.

√IPENZ 44/16 **Aceh emergency support for irrigation- building back better.**
Meigh, D. Proceedings of the Institution of Civil Engineers: Civil Engineering, Volume 162, Issue CE4
(November 2009) Pages 171-179.
Post tsunami reconstruction of irrigation systems.

√IPENZ 44/17 **Operational flood management under large-scale extreme conditions, using the example of the Middle Elbe.**
Kron, A. et al. Natural Hazards & Earth System Sciences, Volume 10, Issue 6 (2010) Pages 1171-1181.

√IPENZ 44/18 **A microcontroller-based intelligent system for real-time flood alerting.**
International Journal of Computers, Communications & Control, Volume 5, Issue 5 (December 2010)
Pages 844-851.

√IPENZ 44/19 **A review on energy saving strategies in industrial sector.**
Abdelaziz, E. A., Saidur, R. and Mekhilef, S. Renewable and Sustainable Energy Reviews, Volume 15,
Issue 1 (January 2011) Pages 150-168.

√IPENZ 44/20 **Adjusting soil infiltration coefficients for groundwater level.**
Blake, J. R. Proceedings of the Institution of Civil Engineers: Water Management, Volume 163, Issue
WM5 (May 2010) Pages 239-245.

√IPENZ 44/21 **Assessing activated sludge morphology by laser and image analysis.**

Wu, J. and Wheatley, A. Proceedings of the Institution of Civil Engineers: Water Management, Volume 163, Issue WM3 (March 2010) Pages 139-145.

√IPENZ 44/22 **Biodegradable municipal solid waste: Biotreatment options.**

Banks, C. J. and Stentiford, E. I. Proceedings of the Institution of Civil Engineers: Waste and Resource Management, Volume 160, Issue WR1 (February 2007) Pages 11-18.

√IPENZ 44/23 **Compressibility and consolidation of water treatment residues.**

O'Kelly, B. C. and Quille, M. E. Proceedings of the Institution of Civil Engineers: Waste and Resource Management, Volume 162, Issue WR2 (May 2009) Pages 85-97.

√IPENZ 44/24 **Environmental assessment of future technologies: how to trim LCA to fit this goal?**

Frischknecht, R., Büsler, S. and Krewitt, R. The International Journal of Life Cycle Assessment, Volume 14, Issue 6 (September 2009) Pages 584-588.

√IPENZ 44/25 **Environmental impact of two aerobic composting technologies using life cycle assessment.**

Cadena, E. et al. The International Journal of Life Cycle Assessment, Volume 14, Issue 5 (July 2009) Pages 401-410.

√IPENZ 44/26 **Snap through of a shallow spherical dome of a prestressed concrete tank.**

Strohman, B. P. and Liepins, A. A. Practice Periodical on Structural Design & Construction, Volume 14, Issue 4 (November 2009) Pages 210-213.

√IPENZ 44/27 **A survey of life cycle approaches in waste management.**

Del Borghi, A., Gallo, M. and Del Borghi, M. The International Journal of Life Cycle Assessment, Volume 14, Issue 7 (November 2009) Pages 597-610.

√IPENZ 44/28 **Thermal conductivity enhancement of phase change materials for thermal energy storage: A review.**

Fan, L. and Khodadadi, J. M. Renewable and Sustainable Energy Reviews, Volume 15, Issue 1 (January 2011) Pages 24-46.

√IPENZ 44/29 **Using gravity – A new green technology.**

Feltenberger, B. American Water Works Association, Volume 102, Issue 11 (November 2010) Pages 34-35.

Hand-operated water pump and filtration system that needs no fuel or electricity.

√IPENZ 44/30 **Implications of current thermal guidelines for data center energy use .**

Hydeman, M. ASHRAE Journal, Volume 52, Issue 8 (August 2010) Pages 30-32,34,36-38,40-41.

√**IPENZ 44/31 Market stimulation of renewable-based power generation in Australia.**

Kuwahata, R. and Monroy, C. R. Renewable and Sustainable Energy Reviews, Volume 15, Issue 1 (January 2011) Pages 534-543.

This paper attempts to identify the types of renewable-based power generation technologies

√**IPENZ 44/32 Maximizing solar PV energy penetration using energy storage technology.**

Zahedi, A. Renewable and Sustainable Energy Reviews, Volume 15, Issue 1 (January 2011) Pages 866-870.

√**IPENZ 44/33 Modularised eco-innovation in the auto industry.**

Christensen, T. B. Journal of Cleaner Production, Volume 19, Issues 2/3 (January/February 2011) Pages 212-220.

√**IPENZ 44/34 Opportunities and barriers to pumped-hydro energy storage in the United States.**

Yang, C. and Jackson, R. B. Renewable and Sustainable Energy Reviews, Volume 15, Issue 1 (January 2011) Pages 839-844.

√**IPENZ 44/35 Production inefficiency of electricity markets with hydro generation.**

Philpott, A. et al. Utilities Policy, Volume 18, Issue 4 (December 2010) Pages 174-185.

√**IPENZ 44/36 The majesty of Hoover Dam.**

Rogers, J. David. Civil Engineering, Volume 80, Issue 11 (November 2010) Pages 51-65.

√**IPENZ 44/37 Hydraulic and geomorphological effects of run-of-river dams.**

Csiki, S. and Rhoads, B. Progress in Physical Geography, Volume 34, Issue 6 (12 January 2010) Pages 755-780.

√**IPENZ 44/38 Multiphase flow simulations through Tarbela Dam spillways and tunnels.**

Abid, M. and Muftooh Ur Rehman. Journal of Water Resource & Protection, Volume 2, Issue 6 (June 2010) Pages 532-539.

√**IPENZ 44/39 Seepage analysis under dams with vertical sheet pile using Schwarz-Christoffel transformation.**

Abdulrahman, A. and Mardini, J. International Journal of Geotechnical Engineering, Volume 4, Issue 4 (October 2010) Pages 537-547.

BOOKS AND STANDARDS IN ENERGY LIBRARY.

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

√**IPENZ 44/40 The handbook of biomass combustion & co-firing.**

Loo, Sjaak van and Koppejan, Jaap (eds.). 2nd edition. London: Earthscan, 2010

This second edition has been updated and compiled by a number of recognized international experts and covers from basic principles to industrial combustion and environmental impact.

Sound, noise, flicker and the human perception of wind farm activity. Rapley, Bruce; Bakker, Huub; Jennings, Nick (eds). Palmerston North: Atkinson & Rapley, 2010

This review brings together a series of papers dealing with issues of human perception of wind farm noise and is in response to requests by residents affected by wind farm activity.

√**IPENZ 44/41 Sound, noise, flicker and the human perception of wind farm activity.**

Rapley, B., Bakker, H. and Jennings, N. (eds). Palmerston North: Atkinson & Rapley, 2010

This review brings together a series of papers dealing with issues of human perception of wind farm noise and is in response to requests by residents affected by wind farm activity.



√**IPENZ 44/42 Gadgets and gigawatts: Policies for energy efficient electronics.**

Ellis, M. and Jollands, N. International Energy Agency. Paris: OECD/IEA, 2009

√**IPENZ 44/43 Enterprise and energy: The Todd family of New Zealand.**

Galbreath, R. Wellington, NZ: Todd, 2010

The Todd family has been involved in many successful business enterprises in New Zealand; starting with the Heriot Fellmongery in 1884, the list moves through the Todd Motor Co, the beginnings of Europa Oil, Todd Motor Industries, Shell BP Todd's involvement in oil and gas, and Todd Energy's involvement in electricity as well. The human story of this enterprising family is also told.

√**IPENZ 44/44 Infrastructure investment: Supporting better decisions.**

Phillips, P., Ellis, M. and Boshier, J. New Zealand Centre for Advanced Engineering. Christchurch: CAENZ, 2010

This study identifies some shortcomings in current practice in infrastructure investment planning in New Zealand and recommends a range of changes. The report provides an analysis of four NZ case studies and also looks at international frameworks for infrastructure planning. It provides interviews with leading decision makers including past cabinet ministers, mayors, chairs and directors of major companies.

√**IPENZ 44/45 Harvard Business Review on what makes a leader.**

Boston: Harvard Business Press, 2001

A collection of well written articles by well known leadership authors.

√**IPENZ 44/46 The small dams of Central Otago: A history of the small dams that were built to provide irrigation and electricity for people of the area.**

Ellis, David. Alexandra: David Ellis, 2009

This well illustrated book presents information on all the small dams which has been built in Central Otago since 1912.

√**IPENZ 44/47 Switching on the King Country: A century of community achievement.**

Reilly, H. Wellington, Steele Roberts, 2010

Helen Reilly describes how electricity was first introduced to the isolated and rural properties in the King Country and how it faced the difficult challenges in this area. The text is accompanied by the addition of numerous coloured and black and white photographs right throughout the book, all which envelope the reader in a slice of New Zealand history. Helen has kindly donated two copies to Energy Library.

√**IPENZ 44/48 When the lights went out: A history of blackouts in America.**

Nye, D. E. Cambridge: MIT Press, 2010

The author looks at power outages in America from 1935 to the present. This includes military blackouts before and during World War II up to 2007 the "greenouts" or voluntary blackouts by environmental groups and activists.

√**IPENZ 44/49 How to optimise shutdown or turnaround management.**

Eerens, E. W. J. 3rd edition. Mount Eliza, Victoria: Le Clochard, 2009

This is a very practical guide to optimising plant shutdown or turnaround management in all its phases. It answers questions as is a shutdown necessary, how to plan and execute one and finally how to terminate the shutdown.

√**IPENZ 44/50 Behaviour and operation of pumped storage hydro plants.**

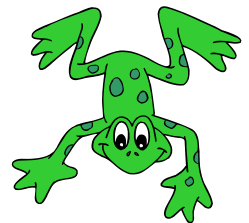
Mansoor, S. P. University of Wales, Bangor, School of Informatics, 2000

Ph.D dissertation.

√**IPENZ 44/51 Ping: A frog in search of a new pond.**

Gold, S. A. New Delhi: Wisdom Tree, 2007

Written in the tradition of the book, of "Who Moved my Cheese", this is an inspirational parable that provides the reader with insights to help deal with life's daily challenges and changes and also helps them to recognize their inner limitless potential.



√**IPENZ 44/52 AS 60076-1: 2005. Power transformers. Part 1: General.**

√IPENZ 44/53 AS/NZS 1429.2: 2009. Electric cables: polymeric insulated. Part 2: For working voltages above 19/33 (36) kV up to and including 87/150 (170) kV.

√IPENZ 44/54 IEEE 48: 2009. Standard test procedures and requirements for alternating-current cable terminations used on shielded cables having laminated insulation rated 2.5 kV through 765 kV or extruded insulation rated 2.5 kV through 500 kV.

√IPENZ 44/55 IEEE C57.140: 2006. IEEE guide for the evaluation and reconditioning of liquid immersed power transformers.

√IPENZ 44/56 AS 60044.1 - 2007. Instrument transformers. Part 1: Current transformers (IEC 60044-1: 2003) 2nd ed.

√IPENZ 44/57 AS 3818.3: 2003. Timber - Heavy structural products - Visually graded Part 3: Piles.

√IPENZ 44/58 AS/NZS 5050: 2010. Business continuity: Managing disruption related risk.

√IPENZ 44/59 AS/NZS 3760: 2010. In-service safety inspection and testing of electrical equipment.

√IPENZ 44/60 AS/NZS 3012: 2010. Electrical installations: Construction and demolition sites.

SPECIAL FOCUS – SUCCESSION

√IPENZ 44/61 **Succeeding at succession.**

Citrin, J. M. and Ogden, D. Harvard Business Review, Volume 88, Issue 11 (November 2010) Pages 29-31.

The article presents the results of a study which investigated the question of how best to manage chief executive officer (CEO) succession. It is noted that succession planning has traditionally been more of an art than a science, and information about the study's data sources and methodology is provided. It was found that the members of a firm's board of directors should definitely be considered as potential CEO's. Although often considered a last resort, their combination of inside knowledge and outside perspective tends to produce above-average results. The impact of a company's existing financial status on the typical performance of outsider or insider candidates is also analyzed.

√IPENZ 44/62 **CEO succession: The ultimate measure of board performance.**

Murphy, C. Corporate Board, Volume 31, Issue 183 (July/August 2010) Pages 12-16.

√IPENZ 44/63 **Succession success.**

Dutra, A. and Griesedieck, J. Leadership Excellence, Volume 27, Issue 5 (May 2010) Pages 14-15.

√IPENZ 44/64 **Expanding the role of succession planning.**

Kleinsorge, R. T+D, Volume 64, Issue 4 (April 2010) Pages 66-69.

√IPENZ 44/65 **Career development as a retention and succession planning tool.**

Gaffney, S. Journal for Quality & Participation, Volume 28, Issue 3 (Fall 2005) Pages 7-10.

√IPENZ 44/66 **Expect the unexpected before the crisis calls.**

Lynn, D. M. Directorship, Volume 36, Issue 3 (June/July 2010) Pages 44-45.

√IPENZ 44/67 **Ignoring rules of succession: How the board reacts to CEO illness announcements.**

Davidson III, W. N. et al. Journal of Business Strategies, Volume 23, Issue 2 (Fall 2006) Pages 93-113.

√IPENZ 44/68 **Expanding the role of succession planning.**

Kleinsorge, R. T+D, Volume 64, Issue 4 (April 2010) Pages 66-69.

√IPENZ 44/69 **Have you planned for your replacement?**

Hollington, S. Engineering Management, Volume 17, Issue 1 (February 2007) Pages 17-18

√IPENZ 44/70 **Leadership development and succession planning.**

Skipper, C. O. and Bell, L. C. Leadership & Management in Engineering, Volume 8, Issue 2 (April 2008) Pages 77-84.

√IPENZ 44/71 **Make your company a talent factory.**

Ready, D. A. and Conger, J. A. Harvard Business Review, Volume 85, Issue 6 (June 2007) Pages 68-77.

Despite the great sums of money companies dedicate to talent management systems, many still struggle to fill key positions—limiting their potential for growth in the process. Virtually all the human resource executives in the authors' 2005 survey of 40 companies around the world said that their pipeline of high-potential employees was insufficient to fill strategic management roles. The survey revealed two primary reasons for this. First, the formal procedures for identifying and developing next-generation leaders have fallen out of sync with what companies need to grow or expand into new markets. To save money, for example, some firms have eliminated positions that would expose high-potential employees to a broad range of problems, thus sacrificing future development opportunities that would far outweigh any initial savings from the job cuts. Second, HR executives often have trouble keeping top leaders' attention on talent issues, despite those leaders' vigorous assertions that obtaining and keeping the best people is a major priority. If passion for that objective doesn't start at the top and infuse the culture, say the authors, talent management can easily deteriorate into the management of bureaucratic routines. Yet there are companies that can face the

future with confidence. These firms don't just manage talent, they build talent factories. The authors describe the experiences of two such corporations—consumer products icon Procter & Gamble and financial services giant HSBC Group—that figured out how to develop and retain key employees and fill positions quickly to meet evolving business needs. Though each company approached talent management from a different direction, they both maintained a twin focus on functionality (rigorous talent processes that support strategic and cultural objectives) and vitality (management's emotional commitment, which is reflected in daily actions).

√**IPENZ 44/72 Picking the right insider for CEO succession.**

Carey, D., Phelan, D. and Useem, M. Harvard Business Review, Volume 87, Issue 1 (January 2009) Pages 24-26.

The article reports how GlaxoSmithKline created a parallel process for assessing individuals in the company's approach to executive succession. Three internal candidates competed publicly for the position of chief executive officer (CEO) via CEO-level yearlong projects which were supervised by CEO Jean-Pierre Garnier and the board of directors. The executives were evaluated by outsiders as well as the internal executives who worked with the candidates on supply-chain management, product-safety, and marketing projects. The feedback from the outsiders, the 360-degree assessments, and a "450 degree" analysis of the interviews with the internal executives who supervised the candidates was used to select the new CEO—Andrew Witty.

√**IPENZ 44/73 Solve the succession crisis by growing inside-outside leaders.**

Bower, J. L. Harvard Business Review, Volume 85, Issue 11 (November 2007) Pages 90-96.

In his analysis of 1,800 successions, Harvard Business School professor Bower found that companies performed significantly better when they appointed insiders to the job of CEO. Other researchers, including Jim Collins in *Good to Great*, have come to similar conclusions working from different data sets. Yet Bower finds far too many companies have no succession plans; as a result, when the time comes to name a new chief executive, more firms turn to outsiders. Both insider and outsider CEOs have strengths and weaknesses at the start. Insiders know the company and its people but are often blind to the need for radical change. Outsiders see the need for a new approach but can't make the necessary changes because they don't know the organization or industry sector well enough. What companies must do, then, is find a way to nurture what Bower calls inside-outsiders – internal candidates who have outside perspective. Often such executives have spent much of their time away from the mainstream of the organization, and away from headquarters, living with new opportunities and threats. Before becoming CEO, Procter & Gamble's A.G. Lafley, for instance, worked for years building P&G's Chinese cosmetics operation rather than the core detergent business. IBM's Sam Palmisano was a champion of software and open systems at a time when Big Blue was essentially a closed-system, hardware-oriented company. Nascent inside-outsiders should enter the CEO-training process by the time they are 30 and be given the opportunity to manage a whole business, so that they become good insiders. But they also need to be mentored with an eye toward preserving their outsider perspective, so they learn how to turn their new ideas into great businesses and are protected from old-timers who might be inclined to teach them a lesson.

√**IPENZ 44/74 Tips for better succession planning.**

Haworth, M. Journal for Quality & Participation, Volume 28, Issue 3 (Fall 2005) Pages 13-15.

√IPENZ 44/75 **Using past lessons to prepare future leaders.**
Hyden, T. Fire Engineering, Volume 163, Issue 7 (July 2010) Pages 71-76.

√IPENZ 44/76 **Who's next?**
Krell, E. Electric Perspectives, Volume 35, Issue 4 (July/August 2010) Pages 24-42.
The article focuses on the need for topnotch succession planning in utility corporations geared towards identifying and grooming replacements for the most senior executive roles, including chief executive officers (CEOs) and senior engineers, as most are up for retirement. Incoming management is described to require skills covering new challenges like an aging infrastructure and deployment of new technology for a low-carbon world, among others. Efforts done by corporations like Constellation Energy Nuclear Group (CENG) are described.

SPECIAL TOPICS IN PREVIOUS IPENZ ENGINEERING UPDATES

<ul style="list-style-type: none"> ➤ Snow loads ➤ Liquefaction ➤ 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"> ➤ Perspectives on work life balance and job stress ➤ 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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