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- Banking on groundwater in times of change.

SPECIAL FOCUS... Noise –pollution, measurement and control

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

√IPENZ 34/01 Business continuity planning.

Melton, A and Trahan, J. Risk Management, Volume 56, Issue 10 (December 2009) Pages 46-48.

√IPENZ 34/02 Eyes wide open :How examining macro trends can identify emerging risks..

Jou Soot Chung. Risk Management, Volume 56, Issue 8 (October 2009) Pages 26-31.



√IPENZ 34/03 An ANP-based approach for the selection of photovoltaic solar power plant investment projects.

Aragonés-Beltrán, P et al. Renewable and Sustainable Energy Reviews, Volume 14, Issue 1 (January 2010) Pages 249-264.

In this paper the Analytic Network Process (ANP) is applied to the selection of photovoltaic (PV) solar power projects. These projects follow a long management and execution process from plant site selection to plant start-up. As a consequence, there are many risks of time delays and even of project stoppage. In the case study presented in this paper a top manager of an important Spanish company that operates in the power market has to decide on the best PV project (from four alternative projects) to invest based on risk minimization. The manager identified 50 project execution delay and/or stoppage risks. The influences between the elements of the network (groups of risks and alternatives) were identified and analyzed using the ANP multicriteria decision analysis method. Two different ANP models were used: one hierarchy model (that considers AHP as a particular case of ANP) and one network-based model. The results obtained in each model were compared and analyzed. The main conclusion is that unlike the other models used in the study, the single network model can manage all the information of the real-world problem and thus it is the decision analysis model recommended by the authors. The strengths and weaknesses of ANP as a multicriteria decision analysis tool are also described in the paper

√IPENZ 34/04 Mapping competencies.

Ranade, S., et al. Mechanical Engineering, Volume 132 Issue 2 (February 2010) Pages 30-34.

√IPENZ 34/05 Using talent-management audits can improve HR's results.

Preziosi, R. C. Employment Relations Today, Volume 35 Issue 3 (Fall 2008) Pages 17-24.

√IPENZ 34/06 :Thinking out-of-the-box.

Violino, B. CIO Insight, Issue 110 (December 2009) Pages 38-40.

Purchasing emerging technology—buying decisions of CIO's are discussed.

√**IPENZ 34/07 Leadership coaching: The developmental power of the one-on-one.**

Dunn, M. Employment Relations Today, Volume 35 Issue 4 (Winter 2009) Pages 25-29.

√**IPENZ 34/08 The best-performing CEOs in the world.**

Hansen, M. et al. Harvard Business Review, Volume 88 Issue 1 (January/February 2010) Pages 104-113.

The article presents HBR's top 50 ranking of the best-performing chief executive officers (CEO) at large public companies over the long term or a three-year horizon. The discussion focuses on the education of the CEOs, the change in market capitalization during their tenure, and industry-adjusted company returns. The list includes Steve Jobs of Apple in the United States, Yun Jong-Yong of Samsung Electronics in Korea, Alexey B. Miller of Gazprom in Russia, John T. Chambers of Cisco Systems in the U.S., and Mukesh D. Ambani of Reliance Industries in India.

√**IPENZ 34/09 How effective is utility leadership?**

Gerstberger, R. L. and Gromala, K. A. American Water Works Association, Volume 102 Issue 1 (January 2010) Pages 46-57.

√**IPENZ 34/10 Managing in the fast lane by avoiding project jams.**

LaBrosse, M. Employment Relations Today, Volume 35 Issue 4 (Winter 2009) Pages 93-98.

√**IPENZ 34/11 Project feasibility study: the key to successful implementation of sustainable and socially responsible construction management practice.**

Li-yin Shen, et al. Journal of Cleaner Production, Volume 18, Issue 3, (February 2010) Pages 254-259
This paper introduces a new approach for conducting project feasibility study by embracing the principles of sustainable development. Construction projects, in particular, infrastructures have major influence on the attainment of sustainable development, thus project sustainability needs to be considered. This becomes a pressing issue particularly in those developing countries or regions, such as China where a huge amount of construction works are currently performed and remain to happen in the future. Previous study has addressed little on the relevance of project feasibility study to project sustainability performance. The importance of incorporating sustainable development principles in conducting project feasibility study is not effectively understood by project stakeholders. This paper addresses major challenges of undertaking project feasibility study in line with sustainable construction practice with reference to the Chinese construction industry. A case study approach is the major research method in this study. The research team collected 87 feasibility study reports from various projects.

√**IPENZ 34/12 Corporate social responsibility in a global economy**

Kanji, G and Chopra, Parvesh K. Total Quality Management & Business Excellence, Volume 21 Issue 2 (February 2010) Pages 119-143.

√IPENZ 34/13 **How does doing good matter?: Effects of corporate citizenship on employees.**

Glavas, A and Piderit, S. Journal of Corporate Citizenship (Winter 2009) Pages 52-70.

√IPENZ 34/14 **An empirical study on the integration of management system audits.**

Bernardo, M et al. Journal of Cleaner Production Volume 18, Issue 5, (March 2010) Pages 486-495

The objective of this paper is to analyze how internal and external audits of standardized management systems are conducted, with specific focus on the actual integration of audits performed against different management system standards. The research is based on a survey of 435 organizations registered to, at a minimum, both the ISO 9001: 2000 and ISO 14001: 2004 standards.

√IPENZ 34/15 **Time management tips for the busy manager.**

Staffieri, N. Supervision, Volume 70 Issue 8 (August 2009) Pages 9-11.

√IPENZ 34/16 **How to bounce back from adversity.**

Margolis, J and Stoltz, P. Harvard Business Review, Volume 88 Issue 1 (January 2010) Pages 86-92.

The article focuses on how companies can be managed to overcome adversity with resilience. The characteristics of resilient managers who provide leadership for their teams and can build resilience in their employees are discussed.

Technical Aspects of Engineering



√IPENZ 34/17 **Performance of repaired fire affected RC beams.**

Kumar, P., Raju, M. and Rao, K. Current Science, Volume 96 Issue 3 (2 October 2009) Pages 398-402.

√IPENZ 34/18 **Design and use of wood – concrete composites.**

Clouston, P. and Schreyer, A. Practice Periodical on Structural Design & Construction, Volume 13 Issue 4 (November 2008) Pages 167-174.

√IPENZ 34/19 **Long-term response prediction of integral abutment bridges.**

Pugasap, K., Kim, W. and Laman, J. A. Journal of Bridge Engineering, Volume 14 Issue 2 (March/April 2009) Pages 129-139.

√IPENZ 34/20 **Semiactive control of seismically isolated bridges.**

Kori, J. G. and Jangid, R. S. International Journal of Structural Stability & Dynamics, Volume 8 Issue 4 (December 2008) Pages 547-568.

√IPENZ 34/21 **White paper on bridge inspection and rating.**

Journal of Bridge Engineering, Volume 14 Issue 1 (January/February 2009) Pages 1-5.

√IPENZ 34/22 **Corrosion control in oil and gas pipelines.**

Thacker, B. H. et al. Pipeline & Gas Journal, Volume 237 Issue 3 (March 2010) Pages 62-66.

√IPENZ 34/23 **Solving corrosion problems in biofuels industry.**

Torsner, E. Corrosion Engineering, Science & Technology, Volume 45 Issue 1 (February 2010) Pages 42-48.

√IPENZ 34/24 **Study on the hot dip galvanized rebars cohesion in concrete structures.**

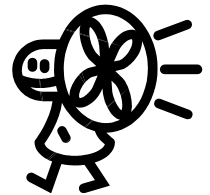
Hegy, A. et al. Metalurgia International, Volume 15 Issue 4 (April 2010) Pages 20-25.

√IPENZ 34/25 **State of the art of the development and application of anti-seismic systems in Europe and other countries.**

Martelli, A. and Forni, M. AIP Conference Proceedings, Volume 1020 Issue 1 (7 August 2008) Pages 1272-1293.

√IPENZ 34/26 **Behaviour of base-isolated structures with high initial isolator stiffness.**

Sharma, A. and Jangid, R. S. International Journal of Applied Science, Engineering & Technology, Volume 5 Issue 3 (2009) Pages 199-204.



√IPENZ 34/27 **Fault rupture-foundation interaction: selected case histories.**

Faccioli, E. Bulletin of Earthquake Engineering, Volume 6 Issue 4 (November 2008) Pages 557-583.

√IPENZ 34/28 **Environmental impact of cement production: Detail of the different processes and cement plant variability evaluation.**

Chen, C. et al. Journal of Cleaner Production, Volume 18 Issue 5 (March 2010) Pages 478-485.

√IPENZ 34/29 **Biofuels from microalgae—A review of technologies for production, processing, and extractions of biofuels and co-products.**

Brennan, L. and Owende, P. Renewable and Sustainable Energy Reviews, Volume 14 Issue 2 (February 2010) Pages 557-577

√IPENZ 34/30 **Production of first and second generation biofuels: A comprehensive review.**

Naik, S. N. et al. Renewable and Sustainable Energy Reviews, Volume 14 Issue 2 (February 2010) Pages 578-597.

√IPENZ 34/31 **Energy and greenhouse gas impacts of mining and mineral processing operations.**
Norgate, T. and Haque, N. Journal of Cleaner Production, Volume 18 Issue 3 (February 2010) Pages 266-274.

√IPENZ 34/32 **From water to energy: The virtual water content and water footprint of biofuel consumption in Spain.**

Galan-del-Castillo, E. and Velazquez, E. Energy Policy, Volume 38 Issue 3 (March 2010) Pages 1345-1352.

√IPENZ 34/33 **Optimal design of binary cycle power plants for water-dominated, medium-temperature geothermal fields**

Franco, A. and Villani, M. Geothermics, Volume 38 Issue 4 (December 2009) Pages 379-391.

√IPENZ 34/34 **Production engineering in geothermal technology: A review.**

Gallup, D. L. Geothermics, Volume 38 Issue 3 (September 2009) Pages 326-334.

√IPENZ 34/35 **Diffusion effect and learning effect: An examination on MSW recycling.**

Chen, Y. and Chang, D. Journal of Cleaner Production, Volume 18 Issue 5 (March 2010) Pages 496-503.

√IPENZ 34/36 **Improved recycling with life cycle information tagged to the product.**

Luttrupp, C. and Johansson, J. Journal of Cleaner Production, Volume 18 Issue 4 (March 2010) Pages 346-354.

√IPENZ 34/37 **A statistical model for landfill surface emissions.**

Héroux, M., Guy, C. and Millette, D. Journal of the Air & Waste Management Association, Volume 60 Issue 2 (February 2010) Pages 219-228.

√IPENZ 34/38 **Membrane synthesis for separation (Part 1).**

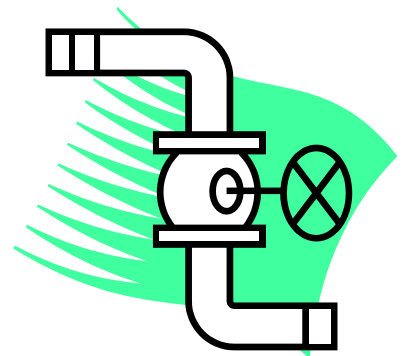
Ghag, K. S. and Mahanwar, P. A. Chemical Business, Volume 24 Issue 1 (January 2010) Pages 23-31.

√IPENZ 34/39 **Membrane synthesis for separation (Part 2).**

Ghag, K.. and Mahanwar, P. A. Chemical Business, Volume 24 Issue 2 (February 2010) Pages 34-40.

√IPENZ 34/40 **Banking on groundwater in times of change.**

Water Policy Briefs, Issue 32 (2010) Pages 1-7.



√IPENZ 34/41 **Methods for evaluating water distribution network early warning systems.**
Kroll, D. and King, K. American Water Works Association, Volume 102 Issue 1 (January 2010) Pages 79-91.

√IPENZ 34/42 **The Portuguese system of certifying and labeling water-efficiency products.**
Silva-Afonso, A. and Pimentel-Rodrigues, C. American Water Works Association, Volume 102 Issue 2 (February 2010) Pages 52-57.

√IPENZ 34/43 **Cross-sector emergency planning for water providers and healthcare facilities.**
Welter, G. et al. American Water Works Association, Volume 102 Issue 1 (January 2010) Pages 68-80.

√IPENZ 34/44 **Application of water pinch technology for water and wastewater minimization in aluminum anodizing industries.**
Khezri, S. M. et al. International Journal of Environmental Science & Technology (IJEST), Volume 7 Issue 2 (Spring 2010) Pages 281-290.

√IPENZ 34/45 **Combined advanced wastewater treatment processes for persistent organic pollutants removal and enhancement of wastewater biodegradability.**
Teodosiu, C. Environmental Engineering & Management Journal (EEMJ), Volume 9 Issue 1 (January 2010) Pages 72-72.

√IPENZ 34/46 **Gaza wastewater treatment plant as a model for low cost wastewater treatment technology in semi-arid environment.**
Nassar, A. et al. Research Journal of Environmental Sciences, Volume 4 Issue 2 (2010) Pages 149-157.

Focus on...Noise –pollution, measurement and control

√IPENZ 34/47 **Noise prediction and control of Pudong International Airport expansion project.**
Lei, B., Yang, X. and Yang, J. Environmental Monitoring & Assessment, Volume 151 Issue 1-4 (April 2009) Pages 1-8.

√IPENZ 34/48 **Acceptable noise levels for construction site offices.**
Mui, K. W., Wong, L. T. and Wong, Y. W. Building Services Engineering Research & Technology, Volume 30, Issue 1 (February 2009) Pages 87-94.



√IPENZ 34/49 **3D noise mapping in urban areas.**

Stoter, J., de Kluijver, H. and Kurakula, V. International Journal of Geographical Information Science, Volume 22 Issue 8 (August 2008) Pages 907-924.

√IPENZ 34/50 **Presentation of Giresun City traffic noise pollution map via geographical information system.**

Kalıpci, E. and Dursun, Ş. Journal of Applied Sciences, Volume 9 Issue 3 (2009) Pages 479-487.

√IPENZ 34/51 **HVAC - system acoustics**

Terzigni, M. Heating/Piping/Air Conditioning Engineering, Volume 80 Issue 8 (August 2008) Pages 18-23.

√IPENZ 34/52 **Prediction of flow-generated noise produced by an in-duct spoiler in a ventilation system using CIBSE Guide B5 methods.**

Mak, C. M. et al. Building Services Engineering Research & Technology, Volume 30 Issue 2 (May 2009) Pages 153-168

√IPENZ 34/53 **Noise balance in internal combustion engines.**

Kishore, K., Yousufuddin, S. and Subbaiah, G. V. International Journal of Applied Engineering Research, Volume 4 Issue 5 (2009) Pages 767-771.

√IPENZ 34/54 **Estimation of individual power of noise sources operating simultaneously.**

Chandna, P. et al. Proceedings of World Academy of Science: Engineering & Technology, Volume 39 (March 2009) Pages 348-353.

√IPENZ 34/55 **Detection of aerodynamic noise sources in low-speed axial fans with tip end-plates.**

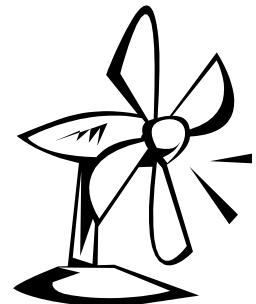
Bianchi, S. et al. Proceedings of the Institution of Mechanical Engineers, Volume 223 Issue C6 (June 2009) Pages 1379-1393.

√IPENZ 34/56 **Development of improved blade tip endplate concepts for low-noise operation in industrial fans.**

Corsini, A., Rispoli, F. and Sheard, A. G. Proceedings of the Institution of Mechanical Engineers - Part A - Power & Energy, Volume 221 Issue 5 (August 2007) Pages 669-681.

√IPENZ 34/57 **How fan noise reduction affects cost.**

Gaimmaruti, R. and Seawell, J. Hydrocarbon Processing, Volume 87 Issue 11 (November 2008) Pages 61-66.



√**IPENZ 34/58 Reduction of fan noise emission by enclosure modification.**

Lee, M. et al. Noise Control Engineering Journal, Volume 56 Issue 1 (January/February 2008) Pages 4-15.

√**IPENZ 34/59 Time delay based noise control in centrifugal fans.**

Golmohammadi, R. Noise Notes, Volume 7 Issue 3 (July 2008) Pages 27-34.

√**IPENZ 34/60 Generator set noise solutions.**

Aabergis, D. Pollution Engineering, Volume 43 Issue 3 (March 2008) Pages 47-54.

√**IPENZ 34/61 The Noise Perception Index (NPI) for assessing noise impact from major industrial facilities and power plants in the U.S.**

Hessler, Jr., G. F. Noise Control Engineering Journal, Volume 56 Issue 5 (September/October 2008) Pages 374-385.

√**IPENZ 34/62 A consideration of an evaluation index for high-level low-frequency noise by taking into account the effect of human body vibration.**

Takahashi, Y. and Harada, N. Noise Notes, Volume 7 Issue 1 (January 2008) Pages 19-32.

√**IPENZ 34/63 Low Frequency Noise. What we know, what we do not know, and what we would like to know.**

Leventhall, G. Noise Notes, Volume 8 Issue 4 (October 2009) Pages 3-28.

√**IPENZ 34/64 Mining haul truck cab noise: An evaluation of three acoustical environments.**

Bealko, S. B. Mining Engineering, Volume 61 Issue 10 (October 2009) Pages 36-43

√**IPENZ 34/65 Can road traffic mask sound from wind turbines? Response to wind turbine sound at different levels of road traffic sound.**

Pedersen, E. Energy Policy: Greater China Energy: Special Section with regular papers, Volume 38 Issue 5 (May 2010) Pages 2520-2527.



√**IPENZ 34/66 Noise management on modern wind turbines.**

Romero-Sanz, I. and Matesanz, Á. Wind Engineering, Volume 32 Issue 1 (January 2008) Pages 27-44.

√**IPENZ 34/67 The investigation of noise attenuation by plants and the corresponding noise-reducing spectrum.**

Fan, Y. et al. Journal of Environmental Health, Volume 72 Issue 8 (April 2010) Pages 8-16.

√**IPENZ 34/68 Dynamics of traffic noise in a tropical city Varanasi and its abatement through vegetation.**

Pathak, V., Tripathi, B. and Kumar Mishra, V. Environmental Monitoring & Assessment, Volume 146 Issue 1-3 (November 2008) Pages 67-75.

√**IPENZ 34/69 Measurements and model calibration of urban traffic noise pollution.**

Al-Mutairi, N., Al-Rukaibi, F. and Koushki, P. American Journal of Environmental Sciences, Volume 5 Issue 5 (2009) Pages 613-617.

√**IPENZ 34/70 Noise levels associated with New York City's mass transit systems.**

Neitzel, R. et al. American Journal of Public Health, Volume 99 Issue 8 (August 2009) Pages 1393-1399.

√**IPENZ 34/71 Performance of traffic noise models for metropolitan cities.**

Shukla, A. K. et al. Environmental Engineering & Management Journal (EEMJ), Volume 7 Issue 4 (2008) Pages 447-452.

√**IPENZ 34/72 Sustainable soundscapes: Noise policy and the urban experience.**

Adams, M. et al. Urban Studies (Routledge), Volume 43 Issue 13 (December 2006) Pages 2385-2398.

√**IPENZ 34/73 Railway noise in a residential area: A case study.**

Wei, C. et al. ICFAI Journal of Environmental Sciences, Volume 3 Issue 1 (2009) Pages 59-74.

√**IPENZ 34/74 The effect of noise barriers on the market value of adjacent residential properties.**

Julien, B. and Lanoie, P. Appraisal Journal, Volume 76 Issue 4 (Fall 2008) Pages 316-327.



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