

# 2005 亞太風險管理與安全研討會 Asia-Pacific Conference on Risk Management and Safety

1-2 December 2005 • Kowloon Shangri-La Hotel • Hong Kong

**Theme:** Challenges in Engineering Applications and Advances in Technologies



## Objective:

To provide a platform for engineers and safety practitioners from different industries and technical discipline to share their view and experience in the applications of risk management.

## Who should attend:

Engineers and safety practitioners with responsibilities in safety improvement, as well as professionals, industrialists and researchers with interests in the tools and techniques for risk management and safety.

Organized by



香港風險管理與安全協會  
Hong Kong Association of  
Risk Management and Safety

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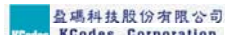


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# Preliminary Program

## Keynote Address by Technical Advisory Panel Members

### Accident Analysis

**Accident Sequence Precursor Analysis of Taiwan Nuclear Power Plants**

*Y C Chou, C H Wu (Taiwan)*

**Accident Precursor Monitoring – A Model that Works to Improve Safety?**

*R Hirsch, B J Condry, D Graham (UK)*

**Accident Sequence Analysis of Railway Accidents Based on Safety Control Functions**

*T Kohda, H Fujihara (Japan)*

**A Systemic Approach to a Railway Accident Scenario Analysis Using a Quality Function Deployment**

*C Park, J Wang, S Kwak, J Park (Korea)*

**The Development of a 3D Consequence Analysis Software**

*Y P I, C H Lee, D L Zhan (Taiwan)*

### Applications of QRA

**Best Practice for Long Distance Transportation Risk Analysis of Tank Truck in Highway Using Simplified QRA**

*H T Tsai, H C Lu (Taiwan)*

**Theme Park Risk Management**

*F Hau (Hong Kong)*

**Conveying Dangerous Goods by Freight Train in KCRC East Rail**

*L Lee, E Cheng (Hong Kong)*

**Risk Analysis versus Risk Acceptability in Major European Tunnel Projects**

*D. Diamantidis (Germany)*

### Aviation and Space

**“Lessons Learned” and Risk Management of JAXA**

*K Tohara (Japan)*

**Safety Management System in Air Traffic Services**

*D Cheng (Hong Kong)*

**Risk Management Considerations of the SOFIA Aircraft**

*M V Frank (USA)*

### Business Continuity Management

**UMC’s Company-Wide Business Continuity Management**

*A Yang (Taiwan)*

**Disaster Risk Management in South-East Asia**

*A Dali (France)*

**Discussion about Business Continuity Management in Taiwan’s Industry**

*W Y Liu, Y C Yao (Taiwan)*

### Computing Safety and Risks

**Safety and Reliability of Software Systems**

*M Xie (Singapore)*

**Assessment and Integration of Software Risk with Overall System Risk**

*M Yau, S Oliva, M Motamed, S Guarro (USA)*

**Qualification of a Software Development Environment for Safety Related Applications**

*O Nordland (Norway)*

**Project Management Model in Risky Environment**

*G Sou (Macau)*

### Corporate and Business Risk

**Corporate Governance and Safety Risk Management in Asia**

*A Waring (Hong Kong)*

**A Business Model for Safety and Reliability Risk Management**

*M V Frank (USA)*

**Towngas’s Experience: Business Risk Assessment in Mainland Joint-Venture Companies**

*K T Leung, V Kwong (Hong Kong)*

**Minimising Risk and Maximising Opportunity: Risk Management in Gammon Construction Ltd**

*P Wong, I Wink, R Lee, A Rooney (Hong Kong)*

### Fire Simulation and Modelling

**The Fire and Explosion Simulation of Flammable Gas Release within a Semiconductor Plant**

*Y P I, Y L Chiu, S J Wu (Taiwan)*

**Zonal Network Platform (ZNP): Applications of a State-of-the-Art Deterministic CFD Based Scientific Computing Tool for Environmental, Nuclear and Thermal Hazards**

*D H Wong (USA)*

**Numerical Simulation of Smoke Venting and Fire Safety in the Mixed Type Clean Room**

*H C Lu, H T Tsai, R Y Lin, H J MIAO (Taiwan)*

**On Estimating Heat Release Rate for a Design Fire in Sprinkler Protected Area**

*W K Chow (Hong Kong)*

**Experimental Verification of a Radiant Heat Exposure Model**

*P S Hui, L T Wong (Hong Kong)*

### Fire Risk Assessment

**Fire Risks in Metro Tunnels**

*R Lau, L Poon (Australia)*

**Fire Safety Assessment of Chemical Tank Farm**

*A Yee (Singapore)*

**Application of FDS in Quantitative Fire Risk Assessment**

*W Y Liu, H C Lu, S W Yu (Taiwan)*

**The Risk Impact from Hazard Factor of Fire Probabilistic Safety Assessment for a PWR Plant in Taiwan**

*C H Wu, T J Lin, T M Kao (Taiwan)*

### Human Factor

**The MDTA Method for Analysing Diagnosis Failures in Nuclear Power Plant Emergencies**

*J W Kim, W Jung, J Park, J Ha (Korea)*

**Practical Ergonomics Recommendations for the Use of Auditory and Visual Signals for Improving System Performance**

*K Chan, A Chan (Hong Kong)*

**Fault Tree Modeling Using Condition Based HRA Method and Simplified Alpha-Factor Method**

*H G Kang, S C Jang, J Ha (Korea)*

**Evaluation of Human Factor Within System Reliability**

*M Bandelloni, O Borgia, F De Carlo, F Tocchi (Italy)*

### Infrastructure and Project Risks

**Quantitative Vulnerability Assessment for Critical Infrastructures - Bridging Risk Management to Safety**

*A Gheorghe (Switzerland)*

**Cost-Effectiveness of Safety Measures in Multiple Use of Space**

*S I Suddle (The Netherlands)*

**Risks from Train Accidents to Adjoining Developments**

*S Venkatesh, M Chan, T Geyer (Hong Kong)*

**Adoption of a Risk-Based Approach to Manage Safety of a Property Development Project over an Operating Railway**

*M Chan, M Wong (Hong Kong)*

### Management of Risk Information

**The Implementation of Advanced Information Management System for PSA**

*S H Kim, J W Kim, J Ha (Korea)*

**An Advanced Display System for Risk-Informed Fire Analysis**

*P L Hsu, H L Ho (Taiwan)*

**Improving Risk Management Through Improved Understanding of Accident Reports and Safety Cases**

*P Mason, M Hasan (Thailand)*

**GIS of Leaking Accident**

*K Wang, Z Cheng, Y Huang (China)*

### Managing Risks in the Gas & Energy Industry

**An Integrated Operational Risk Management Framework for Power Generation**

*S Pang, S Chan (Hong Kong)*

**A Review on Risk Levels Associated with LPG Filling Stations in Hong Kong**

*M Ko, W Kwok (Hong Kong)*

**The Comparison of CFD with a Traditional Method Used in an Incident Investigation Case Happened in Taiwan**

*Y P I, D L Zhan (Taiwan)*

**The Development of the Cutoff Valve for Liquefied Petroleum Cylinders**

*J K Rhim (Korea)*

### Managing Safety and Risks

**Electricity Legislation in Hong Kong Safeguarding the General Public in the Use of Electricity**

*K M Leung, W Y Ho (Hong Kong)*

**The Risk of Flying Manhole Covers**

*S Ngo (Hong Kong)*

**Indoor Environmental Health Risk Management: A Titania Nanotechnology-Based Photocatalytic Oxidation Pollutant-Remediation Approach**

*S C Chan (Hong Kong)*

**Behavioral Responses to Fire Alarm in High-Rise Buildings in Hong Kong: A Survey Study**

*N K Fong, W H Sui, L T Wong (Hong Kong)*

### Nuclear Safety

**A Bayesian Inference Algorithm to Identify Types of Accidents in Nuclear Power Plants**

*K M Kan, M Jae (Korea)*

**The Risk of Radiation from the Nuclear Accidents**

*Y C Luan, M C Shieh, S T Chen, et al. (Taiwan)*

**Stability Solution for Inherently Safe ESBWR Operation**

*R T Chiang, Y K Cheung, Alan K. Chung (USA)*

**Walking and Climbing Service Robots for Safety Inspection of Nuclear Reactor Pressure Vessels**

*B L Luk, A A Collie, D S Cooke, S Chen (Hong Kong)*

## Occupational Safety and Health

### Occupational Chemical Exposure Management System

*J P Fong, C C Wu (Taiwan)*

### Worker Injury Risk Management [WIRM®] including RTW Risk Management

*A Cheng, M J Wellsted (Hong Kong)*

### Development of Safe Job Procedure — Job Hazard Analysis

*L Y Chow, F Chung (Hong Kong)*

### Prevention of Incidences of Falling from Height

*E Hui (Hong Kong)*

## Risk-Based Decision-Making and Applications

### The Application of Risk Management in Rock Slope Engineering

*A. Poon (Hong Kong)*

### The Introduction of Weighted Risk Analysis

*S I Suddle (The Netherlands)*

### Risk Assessment and Management Role in Port Management

*R Colwill, R Yip, E Wong (Hong Kong)*

### An Overview of a Proposed Shift from the Prescriptive Approach to a Risk-Based Approach in the Provision of Fire Extinguishers in Hong Kong

*M Leung (Hong Kong)*

## Risk-Informed Applications

### Risk-Informed Regulation in Taiwan

*T M Kao, J D Lin, C H Wu (Taiwan)*

### Severe Accident Management Strategies and Their Priorities for CANDU Plants

*Y Jin, S Y Park (Korea)*

### Degradation Analysis and Risk-Informed Management of Feedwater System in Nuclear Power Plants

*W F Wu, J S You, C H Wu (Taiwan)*

### Initiating Event Analysis for ABWR on the Purpose of Risk-Informed Applications

*C C Chao, C T Huang, M C Chen, J D Lin, C H Wu (Taiwan)*

## Risk Management

### Risk Vs. Insurance for Semiconductor Industry in Taiwan

*G H Chen, T H Tseng (Taiwan)*

### Risk, is There No Reward ?

*A G Hessami, Z Zhang (China)*

### Risk Management or Managing Risk? Moving People from Process to Preference!

*D Smith (Australia)*

### The Developments in a Rational Approach to Risk: A Practitioner's View over 45 Years

*J A Cumming (UK)*

### The Risk Management of an Interoperability Project like ERTMS. The French Approach.

*N Duquenne, A Stuparu (France)*

## Risk Management and Safety in Chemical Processing Industry

### Risk Analysis for Chemical Parks and Industrial Areas. Methodologies, Models, Applications

*S S Buratt (Italy)*

### Risk Assessment for Printed Circuit Board Industry

*C Miao (Taiwan)*

### Supporting Safety in Process Industry SMEs — The S2S Project

*J Schabel, R Nomen (Finland, Spain)*

### 3D Risk Analysis Method

*Y P I, D L Zhan (Taiwan)*

## Risk Management and Safety in Construction Industry

### Towards Zero Accidents in Construction Industry for Malaysia

*N Sambu Potty, C de Guzman (Malaysia)*

### CPM, PERT and Risk Analysis in Construction: Feasibility Management Case Study

*P Daneshmand (Australia)*

### The Development of Integrated Safety in the Construction Industry in Hong Kong

*Y Y Wong (Hong Kong)*

### Consideration of Uncertainty in Structural Design of RC Frame Subjected to Seismic Loading

*P Štemberk, K Jaroslav, A Kohoutková (Czech Republic)*

## Risk Management and Safety in Maintenance

### Wall Inspection System for High-Safety Maintenance of High-Rise Buildings

*K P Liu, S K Tso, B L Luk, T Feng (Hong Kong)*

### Risk-Based Inspection Analysis for High Pressure Hydrogenation Cracking Unit

*J P Zhao (China)*

### An Approach for Implementing Risk-Informed Evaluation on Check Valves in Taiwan BWR Type Nuclear Power Plant

*K Ting, Y C Li, S H Hwang, C K Wang, F T Chien, J C Kang, T U Kao, J D Lin (Taiwan)*

### JC Method for Reliability Analysis of Fatigue Crack Growth

*X Zou, J Yang (China)*

## Risk Management and Safety in Transportation

### Safety Management and Certification on Singapore Longest Road Tunnel – Kallang and Paya Lebar Expressway (KPE)

*R Lim, S Chan, K W Leong (Singapore)*

### A Holistic Approach to Risk Management

*D Tong, J Chan (Hong Kong)*

### Safety Management System in Railway Sector

*E M El Kursi, S Mitra (France)*

### An Integrated R&D Plan for the Railroad Safety in Korea

*J Wang, S Kwak, C Park, Y Cho (Korea)*

## Safety and Reliability Management in Maintenance

### Consideration on Safety Management in Maintenance

*L Fedele, M Concetti, M La Bella (Italy)*

### The Application of Reliability Centered Maintenance in the Whole Life Cycle Support of Tracked Vehicle

*B Y Zhang, W Song (China)*

### Total Constructive Maintenance (CPM): Beyond Legislative Control for Equipment and Machinery

*D Liu, S Wan (Hong Kong)*

### Performance Reliability Flow Networks

*K Gopal, R Kumar (India)*

## Safety Culture and Behaviour

### Measurement and Improvement of Information Security Culture

*S O Johnsen, C W Hansen, Y Nordby, M B Dahl (Norway)*

### Safety Culture/Climate – An Enigma or Misnomer

*T Haskins (Taiwan)*

### Assessing 'Risk Culture' Using Risk Management, Risk Perception and Safety Climate Measures

*I Glendon (Australia)*

### The Program of Behavior Safety Observation – An Empirical Study of a Semiconductor Company in Taiwan

*J Y Lin, Y C Yao, Y J Chen, Y S Peng, C F Lin (Taiwan)*

## Security/Terrorism Risks

### Security Considerations in the Design and Construction of Modern Buildings

*M Tomordy (Hong Kong)*

### Security from Terrorism on London Underground

*G Dunmore, R Hirsch (UK)*

### Security Risks and Vulnerability of Built Infrastructure Subject to Explosive Blast Loading

*M Stewart, M D Netherton (Australia)*

### Anti-Terrorism Strategies for Land Transportation – A Risk-Informed Approach

*A Har, C Wong (Hong Kong)*

## System and Safety Assurance

### Common Law Safety Case Approaches to Safety Critical Systems Assurance

*K J Anderson, R M Robinson (Australia)*

### Safety Assurance for Chinese Railway – Interfacing with International Practice and Standards

*S Zhang, F Yan, J Jin (China)*

### Application of Systems Engineering to Enhance Safety and Risk Management in Railway Projects

*R N Dumolo (UK)*

### Safety Certification Process for Rapid Transit Systems in Singapore

*C N Tang, S K Khoo (Singapore)*

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<http://www.hkarms.org>

## Technical Advisory Panel

### Australia

**Professor Arnold Dix**, Counsel at Law, Adj Professor(Eng), Queensland University of Technology

### China

**Professor Guangsheng Sun**, Institute of Electrical Engineering, Chinese Academy of Sciences

**Professor Yunsheng Zhao**, Department of Safety Engineering, China University of Geosciences

### Hong Kong

**Dr Alex Cheung**, Principal Consultant, Professional Training & Strategy Limited

**Ir James Kwan**, Executive Director and Chief Operating Officer, The Hong Kong and China Gas Company Limited

**Mr Roger Lai**, Director, Electrical and Mechanical Services Department

**Mr Norman Lo**, Director-General of Civil Aviation, Civil Aviation Department

**Mr Andrew McCusker**, Acting Operations Director, MTR Corporation

### Japan

**Mr Shigeo Kojima**, Deputy Chief Engineer, Computer Software Development Company, Limited

**Mr Kazuyuki Tohara**, Associate Senior Engineer, Japan Aerospace Exploration Agency

### Korea

**Dr Jaejoo Ha**, Director, Integrated Safety Assessment Division, Korea Atomic Research Institute

**Professor Moosung Jae**, Chair, Nuclear Engineering Department, Hanyang University

### Singapore

**Mr Kwok-Weng Leong**, Chief Engineer (Systems), Land Transport Authority

**Professor Min Xie**, Department of Industrial and Systems Engineering, National University of Singapore

### Taiwan

**Dr Tsu-Mu Kao**, Deputy Director, Nuclear Engineering Division, Institute of Nuclear Energy Research

**Professor Wei-Ling Chiang**, Vice President, National Central University

### USA

**Dr David H Johnson**, Chief of Technology, ABS Consulting, Inc

**Dr Alan L Rao**, Office of Safety and Security, VNTSC/RSPA, US Department of Transportation

### European Union (Italy)

**Professor Enrico Zio**, Department of Nuclear Engineering, Politecnico di Milano (Technical University of Milan)

## Supporting Organizations

American Society of Mechanical Engineers, HK Branch

Building Services Operation and Maintenance

Executives Society (HK)

Chung-Hwa Nuclear Society (Taiwan)

Chinese Society for Quality (Taiwan)

Construction Industry Safety – Management Association (HK)

Energy Institute, HK Branch

Hong Kong Institution of Engineers, Gas & Energy Division

Hong Kong Institution of Engineers, Nuclear Division

Hong Kong Institution of Engineers, Safety Specialist

Committee

Hong Kong Institute of Utility Surveyors

Hong Kong Polytechnic University, Industrial Centre

Hong Kong Polytechnic University, Research Centre for

Fire Engineering

Hong Kong Registered Safety Auditors Association

HKUST, Department of Mechanical Engineering

IEEE, Hong Kong Section

IEEE Engineering Management Society, Singapore Chapter

Institution of Occupational Safety & Health, HK Branch

Nuclear Science and Technology Association (Taiwan)

Safety and Reliability Society, HK Branch

Safety Assurance Research and Certification Centre (China)

Society of Accredited Safety Auditors (HK)

Society of Fire Protection Engineers, HK Chapter

Society of Loss Prevention (Singapore)

Society of Registered Safety Officers (HK)

Society of Reliability Engineers (USA)

System Safety Society, Singapore Chapter

The Korean Society of Safety

## Pre-Conference Workshop

**30 November 2005**

Experienced safety professionals from the industries will conduct a Pre-Conference Workshop to introduce the concepts and tools commonly used in risk management, together with some practical examples to illustrate their applications in railway and other safety critical engineering systems. The Workshop is limited to 30 participants, please book early.

## Language

The official language of the Conference is English. It will be adopted in all presentations and discussions.

## Enquiries

For details, please contact the Conference Secretariat:

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