



The Future for Nuclear Power in Asia

Capitalising on nuclear power's potential in a safe, secure and sustainable energy climate

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17-18 February 2014 – 2 Day Briefing

19 February 2014 – Post Briefing Site Visit to Kashiwazaki-Kariwa Nuclear Power Station (KK)

Briefing Chairman:



Lady Barbara Judge, CBE
Chairman Emeritus, UK Atomic Energy Authority
Chairman, **The Energy Institute** of UCL and
Deputy Chairman of the **TEPCO Nuclear Reform Monitoring Committee**

Opening Keynote Address:



Hironori Nakanishi
Director-General, Energy and Technology Policy
Ministry of Economy, Trade and Industry

Keynote Address:



Naomi Hirose
President
TEPCO

Panel of Industry Experts:

Nobuo Tanaka, Global Associate for Energy Security and Sustainability, **Institute of Energy Economics**, Japan, Distinguished Fellow, Center for Global Energy Policy, SIPA, **Columbia University**, Professor, Graduate School of Public Policy, **The University of Tokyo**
Hidetoshi Takehara, President, **Hitachi-GE Nuclear Energy**
Vaclav Bartuska, Ambassador-At-Large, **Ministry of Foreign Affairs**, Czech Republic
Réka Szemerényi, Chief Foreign and Security Policy Advisor, **Prime Minister's Office**, Hungary
Dainius Kamaitis, Ambassador-At-Large, Nuclear Energy Policy Issues, **Ministry of Foreign Affairs of Lithuania**
Necati Yamaç, Nuclear Projects Implementation Department Director, **Turkish Ministry of Energy**
Dr. Fang Chao, Associate Professor, **Institute of Nuclear and New Energy Technology**, **Tsinghua University**
Jeremy Gordon, Head of Information Management, **World Nuclear Association**
Gerry Thomas, Professor of Molecular Pathology Department of Surgery and Cancer, **Imperial College London**
Hiroaki Ishigaki, Tokyo Office Head/Vice President, **NERA Economic Consulting**
George Borovas, Partner and Head of International Nuclear Projects, **Pillsbury Winthrop Shaw Pittman**

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Day 1, Monday 17th February 2014

8:30 Registration & Morning Coffee

9:00 **Chairman's Opening Remarks**

A worldwide overview of the nuclear energy industry and the policies and practical issues relating to Asia

The presentation will discuss the real renaissance with respect to nuclear energy that is taking place in numerous countries around the world. Despite Fukushima, the nuclear renaissance necessitates that governments and populations in general consider nuclear power as an ideal addition to a country's energy mix.

Key factors that remain to consider include:

- Energy independence
- Climate change
- Politics of nuclear
- Planning & zoning issues
- Financing, skills and construction issues
- Regulatory and safety factors
- Public acceptance
- Waste and decommissioning

Lady Barbara Judge, CBE, *Chairman Emeritus*, **UK Atomic Energy Authority Chairman**, **The Energy Institute of UCL** and Deputy Chairman of the **TEPCO Nuclear Reform Monitoring Committee**

Morning Keynote Addresses

9:15 **Opening Keynote Address**

Hironori Nakanishi, Director-General, Energy and Technology Policy
Ministry of Economy, Trade & Industry, Japan

9:40 **Keynote Address**

TEPCO's nuclear reform and Fukushima clean up

- Lessons learned Fukushima accident
- Progress on nuclear reform
- Current situation of Fukushima Daiichi Nuclear Power Station
- Measures to enhance the safety of Kashiwazaki-Kariwa Nuclear Power Station

Naomi Hirose, President, **TEPCO**

10:05 **Energy security and sustainability with safe nuclear power - role of the Integral Fast Reactor**

- Role of nuclear power has increased in less energy self-sufficient countries while the shale revolution gives industrial competitive edge to North America
- Sustainability is a necessary condition for economic growth of emerging economies
- Safety is the number one issue for deployment of nuclear power after the Fukushima accident
- Manageable and reliable fuel cycle model is needed for the future of nuclear power
- "Pandora's promise", the new movie by Robert Stone, gives us hope in the G4 technology, Integral Fast Reactor in particular

Nobuo Tanaka, Global Associate for Energy Security and Sustainability, **Institute of Energy Economics**, Japan, Distinguished Fellow, **Center for Global Energy Policy, SIPA, Columbia University**, Professor, Graduate School of Public Policy, **The University of Tokyo**

10:30 *Networking Morning Coffee*

Developing new nuclear in Asia – Meeting future needs

BWR Safety Strategy

- Lessons learned from Fukushima

- Construction experience
- Global business

Hidetoshi Takehara, President, **Hitachi-Ge Nuclear Energy**

Lunch

Current lessons for new nuclear from emerging countries

Czech Republic

Vaclav Bartuska, Ambassador-At-Large, **Ministry of Foreign Affairs**, Czech Republic

Hungary

Réka Szemerkényi, *Chief Foreign and Security Policy Advisor*, **Prime Minister's Office**, Hungary

Lithuania

Nuclear power development: key to Lithuania's energy independence

Update on the current status of Ignalina NPP (closed) and the proposed Visaginas NPP

- Ignalina NPP - pioneering case worldwide of decommissioning of a Soviet era NPP
 - Current status on decommissioning process and issues:
 - General information (largest and most advanced RBMK design; supplied 70-80% of national demand etc.)
 - Decommissioning strategy and timeline
 - Tasks and challenges (lack of experience in RBMK-type reactors dismantling (first case in the world); defueling, dismantling and decontamination, spent fuel storage, waste utilization, limited financing by the EC beyond 2014 etc.)
 - Key projects: Interim Spent Fuel Storage Facility, Solid Waste Management and Storage Facilities, Landfill Repository, Near Surface Repository
 - Global benefit: lessons learnt from decommissioning of Ignalina NPP will provide valuable European experience in dismantling large graphite-moderated reactors
- Visaginas NPP: towards energy independence in the region
 - Best alternative for electricity generation
 - Takeover of Ignalina NPP infrastructure
 - Project origin- forecasted electricity deficit in the region, power plant capacity needs etc
 - Project uniqueness – a regional effort - Estonia, Latvia, Lithuania + Hitachi, Ltd
 - Most advanced technology selected: the only operational III+ generation ABWR in the world - by Hitachi, Ltd
 - Project timeline

Dainius Kamaitis, Ambassador-At-Large, Nuclear Energy Policy Issues, **Ministry of Foreign Affairs of Lithuania**

Update from Turkey's new nuclear power development

- Why nuclear?
- Why is Turkey late?
- Akkuyu NPP Project
- Sinop NPP Project
- National Organisation
- Legal framework

Necati Yamaç, Nuclear Projects Implementation Department Director, **Turkish Ministry of Energy**

The necessity of Chinese nuclear power development and related safety issues

- Overview of Chinese nuclear power development
- Can China give up the nuclear power route?
- What's behind the recent policy of nuclear power development in China
- Briefing the latest nuclear safety development in China

Dr Fang Chao, Associate Professor, **Institute of Nuclear and New Energy Technology, Tsinghua University**

Regulatory framework development on nuclear safety and security

- Regulatory framework compliance –how do developing countries engage global regulatory bodies?
- Government policy support
- Evolving policies and changing regulatory landscape
- Ensuring appropriate nuclear liability protection is in place

Health effects of nuclear power plant accidents - what we know from Chernobyl and what we should expect from Fukushima

- The only radiobiological effect on health of the local population from the accident at Chernobyl is thyroid cancer in those who were children in 1986 which was caused by exposure to radioiodine
- The thyroid doses post Fukushima are 100 fold lower than those at Chernobyl due to effective mitigation actions
- The fear what radiation might do is likely to have a considerable higher toll on human health, rather than its actual effects
- How can we better inform the general public about the real health risks of exposure to radiation from nuclear power plants?

Gerry Thomas, Professor of Molecular Pathology, Department of Surgery and Cancer, **Imperial College London**

Afternoon Tea

Afternoon Interactive Panel Sessions

Challenges facing the post Fukushima nuclear industry and where we go from here

- Implementing high safety and security standards to minimize risks of disasters
- Role and responsibilities of regulators and operators
- Identifying potential challenges to meeting worldwide safety standards
- Developing and effective strategic roadmap for safety and security

Asia's nuclear energy thrust – assessing the corporate, social and environmental issues

- Increased interest in nuclear power in Asia
- Ensuring safe development and operation of nuclear power in Asia
- Transparency of country's nuclear power programmes
- Imposing international restrictions for nuclear weapons non-proliferations
- Understanding use of nuclear power and nuclear ambitions

6:00 Close of Day 1

7:00 Networking Briefing Cocktails



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8:30 Official Briefing Networking Dinner

Day 2, 18th February 2014, Tuesday

8:30 Morning Coffee

9:00 Chairman's Day 2 Address

Lady Barbara Judge, CBE, *Chairman Emeritus*, **UK Atomic Energy Authority Chairman**, **The Energy Institute of UCL** and Deputy Chairman of the **TEPCO Nuclear Reform Monitoring Committee**

Investment opportunities and effective financing strategies for new nuclear

Project risks on nuclear - what risks are fundable

The global nuclear market and the development and financing of new nuclear projects Post-Fukushima

- Global nuclear market trends and developments
- Challenges of financing nuclear projects
- The impact of Fukushima on nuclear finance

George Borovas, Partner and Head of International Nuclear Projects, **Pillsbury Winthrop Shaw Pittman**

Facilitating new nuclear power plant project financing

- What financing options are available and what are the implications?
- Risk matrix of a typical nuclear power project
- Innovative structures in funding nuclear power plants and facilities
- Structuring the ownership venture

Latest developments in the construction contractor industry – projected forecast for nuclear power plant construction

- Impact of rising reactor demand on existing capacity and new entrants into the market
- Industry capability building from engineering to construction to operation to decommissioning
- Impact of government stimulus spending and environmental pressures on the nuclear plant construction industry

Networking Morning Coffee

Panel Session : Perspective from the Multilateral Institutions on participating in the funding of nuclear energy projects and international experiences and best practices in financing nuclear energy projects

- What is the current sentiment in funding nuclear energy projects?
- Comfort/views of multilateral/public financing of nuclear energy projects?
- Risk matrix of a typical nuclear energy project
- Innovative structures in funding of a nuclear energy plant and facilities
- Cost profile/competitiveness of nuclear energy against conventional power generation
- What type of liability profiles do the equipment suppliers face in countries where nuclear energy is a significant part of the energy mix?
- Exploring BOO as a funding model for emerging markets

Lunch

Technological innovation in nuclear energy

Economic impact of Japanese nuclear plant shutdown

- Overview (nuclear units shutdown)
- Increased fossil fuel imports
- Increases in emissions
- Use of old power plants
- Building new coal power plants
- Demand reduction efforts

Hiroaki Ishigaki, Partner, NERA Consulting

Effective and safe management of waste and decommissioning

- Disposal facilities
- What practical methods are open for disposal and decommissioning of nuclear waste?
- Incorporating safe and sustainable waste management
- Establishing a consistent legal framework with clear allocation of responsibilities with policies and strategies in place for handling waste from generation to final disposal
- Safe and secure management of radioactive waste and spent fuel

Nuclear energy futures

The talk will emphasize on the research and development directions for future nuclear energy applications, and will consist of:

- Gen III+ and Gen IV nuclear reactors with superior performance and safety features
- Innovative nuclear energy applications and concepts, such as, hybrid energy systems and modular nuclear reactors
- Future nuclear fuel cycle options
- Nanotechnology in nuclear energy application, which can improve nuclear reactor performance and safety by using nanofluids and irradiation and high temperature tolerant materials
- Multiphysics modeling and simulation capability development, so that we can have better prediction for different nuclear reactor applications
- Applications of nuclear technologies and methods in other engineering areas.

Applications for use of small reactors

- Licensing, safety, security and implementation to consider for use of small reactors
- Analysis of the economics and future commercial viability of SMRs and advanced reactors
- Technology and policy issues impacting the implementation of small reactors
- Are SMRs challenging the high capital costs and inflexibility of 'large nuclear programmes'?

Assessing the global skills shortage and its implications for the nuclear energy industry

- Developing a talent pool, skills and human resource expertise for nuclear energy programmes
- Training options and availability for skill personnel in nuclear energy
- Positive reinforcement for training and retraining in nuclear energy
- Developing and maintaining a qualified workforce to meet the anticipated demand growth

Networking Afternoon Tea

Planning an optimal nuclear power supply chain

- Current nuclear supply chain in developed and developing countries
- Expected fuel supply, equipment and component challenges
- Implementing effective waste management strategies

Closing Panel Session – The way forward for nuclear power

- What are the driving forces behind new nuclear and new build?
- What steps, if any can be put in place to prevent another Fukushima?

- What hurdles and issues should be taken into consideration when planning and developing nuclear power programmes?
- Infrastructure and supply chain considerations
- List of 'must haves' when constructing new build
- Politics, environment, social and climate change policies to consider

Close of 2nd Asian Nuclear Power Briefing 2014

Priority Registration Form



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19 February 2014 – Post Briefing Site Visit to Kashiwazaki-Kariwa Nuclear Power Station (KK)

	Please <input type="checkbox"/>	Before 15 Jan 2014	After 15 Jan 2014
Full Briefing Registration Package (incl – 2 day briefing, Official Briefing Dinner, Site Visit)		US\$ 2200.00	US\$ 2500.00
2 day briefing only		US\$ 2000.00	US\$ 2300.00
Official Briefing Dinner		US\$ 150.00	US\$ 150.00
Post Briefing Site Visit (19 February 2014)		US\$ 100.00	US\$ 100.00

15% DISCOUNT each to members of: *World Nuclear Association | HK Nuclear Society | IPFA | IEEJ | GNI*
(Registration Fees are inclusive of 2 day briefings, all coffee breaks and access to the 2 day briefings presentations)

Post Briefing Site Visit on 19 February 2014 will be limited to only 30 participants, **PLEASE** register early to avoid disappointment. Transport to and from the site visits and lunch will be Included.

2. DELEGATE DETAILS – Please complete all details

Name (Prof/Dr/Mr/Mrs/Miss/Mdm) _____

Name of Organisation: _____

Mailing Address of Organisation: _____

Designation: _____ Email : _____

Tel No.: _____

Approving Manager's Name and Email: _____

3. PAYMENT DETAILS

Cheque Credit Card (VISA/Mastercard) Bank Transfer/Telegraphic Transfer

The registration fee must be received **nett of all receiving and paying bank charges**. Cancellation charge of **US\$100** and no charge to change delegates

Cancellation Charge - US\$150 will be charged for cancelled registration, registrations can be transferred to a colleague at any time

Hotel information: Hamarikyu Ballroom, Annex Level 1 Conrad Tokyo 1-9-1 Higashi-Shinbashi, Minato-ku, Tokyo 105-7337, Japan Tel: +81.3.6388.8000 Fax: +81.3.6388.8244	Room Rate: JPY 31,049 (inclusive of breakfast and of all applicable taxes) Classic Room, Bed Type – King or Twin, Single Occupancy Note: The double occupancy rate inclusive of breakfast and of all applicable taxes is JPY 38,368 .
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