



International Experts' Meeting

on

**Human and Organizational Factors in Nuclear Safety in the Light of the Accident at
the Fukushima Daiichi Nuclear Power Plant**

Organized in connection with the implementation of the
IAEA Action Plan on Nuclear Safety

PROGRAMME

21–24 May 2013

Vienna, Austria

Chairperson of the Meeting: Marta Ziakova, Chairperson of the Nuclear Regulatory Authority of the Slovak Republic (ÚJD SR) (Slovakia)

Co-Chairpersons: Kathleen Heppell-Masys, Canadian Nuclear Safety Commission (CNSC) (Canada)
Ian Grant, Federal Authority for Nuclear Regulation (FANR) (United Arab Emirates)

Organizing Committee Members:

Akira Kawano (Japan)
Karlene Roberts (USA)
John Ward (Australia)
Lyndon Bevington (IAEA)
Nicolas Delaunay (IAEA)
Monica Haage (IAEA)
Sonja Haber (IAEA)
Brian Molloy (IAEA)
Julie Parlange (IAEA)
Jana Roeschlova (IAEA)
Birgitte Skarbo (IAEA)

IAEA Secretariat

Scientific Secretaries: Gustavo Caruso
Miroslav Lipar
Adriana Nicic
Pal Vincze

Meeting Organizers: Julie Zellinger
Martina Neuhold

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Meeting Venue: Conference Rooms M3 and M5, M Building
Vienna International Centre (VIC)
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Working Language: English

Resolutions: No resolutions may be submitted for consideration on any subject; no votes will be taken.

Tuesday, 21 May 2013

09:00–13:00 **Registration of Delegates, Vienna International Centre, Gate 1**

13:00–18:00 **Plenary Session I: Conference Room M3, M Building**
Update on Fukushima Two Years Later

Chairperson: Marta Ziakova (ÚJD SR)

Co-Chairpersons: Kathleen Heppell-Masys (CNSC)
Ian Grant (FANR)

13:00–13:10 **Opening addresses:**
Opening

13:10–13:30 Denis Flory, Deputy Director General,
Head of the Department of Nuclear Safety and Security (DDG-NS) (IAEA)

13:30–13:50 Alexander Bychkov, Deputy Director General,
Head of the Department of Nuclear Energy (DDG-NE) (IAEA)

Keynote presentations:

13:50–14:20 Gustavo Caruso, Special Coordinator, Nuclear Safety Action Team (IAEA):
Update on the Nuclear Safety Action Plan with Respect to Human and Organizational Factors

14:20–15:00 Karlene Roberts, University of California at Berkeley (USA):
Why Are so Many Accidents Not Unique?

15:00–15:30 *Coffee Break*

15:30–16:15 Akira Kawano, TEPCO (Japan):
Lessons of TEPCO's Fukushima Accident from Human and Organizational Aspects and Challenges for Nuclear Reform

16:15–17:00 Kenzo Oshima, Nuclear Regulation Authority (Japan):
Nuclear Safety, Lessons from Fukushima, Human and Organizational Factors

17:00–17:20 Questions and Answers for Keynote Speakers

17:20–18:00 Panel Discussions on All Presentations

18:00–20:00 *Welcome Reception, Ground Floor, M Building*
Hosted by the IAEA

Wednesday, 22 May 2013

08:30–12:30 **Plenary Session II:** Conference Room M3, M Building
Human and Organizational Factors in Nuclear Safety

Chairperson: Marta Ziakova (ÚJD SR)

Co-Chairpersons: Kathleen Heppell-Masys (CNSC)
Ian Grant (FANR)

Keynote presentations:

08:30–09:00 Jean Paries, Dedale (France):
Why a Paradigm Shift in Thinking is Needed

09:00–09:30 John Ward, Australian Radiation Protection and Nuclear Safety Agency (ARPANSA)
(Australia):
The ARPANSA Approach to Promoting Holistic Safety

09:30–10:00 Jukka Laaksonen, State Atomic Energy Corporation “Rosatom” (Russian Federation):
Managing the Unexpected

10:00–10:30 *Coffee Corners*

Invited speakers:

10:30–11:00 Shuuichi Kaneko, Nuclear Regulation Authority (Japan):
*Changes in the Regulatory Authority in the Area of Human and Organizational
Factors as a Function of the Fukushima Accident*

11:00–11:30 Ardelia Daniels, Institute of Nuclear Power Operations (INPO) (USA):
How to Continuously Improve Cultural Traits for the Management of Safety

11:30–11:50 Questions and Answers for Morning Speakers

11:50–12:30 Panel Discussion

12:30–14:00 *Lunch Break (13:30–14:00 Coffee Corners)*

14:00–18:00 **Plenary Session III:** Conference Room M3, M Building
Influence of Culture on the Management for Safety

Co-Chairpersons: Kathleen Heppell-Masys (CNSC)
Ian Grant (FANR)

Invited speakers:

14:00–14:30 Jozef Zlatnansky, Slovenské elektrárne (Slovakia):
Leadership and Management for Safety

14:30–15:00 Cornelia Ryser, Swiss Federal Nuclear Safety Inspectorate (ENSI) (Switzerland):
Implications of the Fukushima Accident from a Regulatory Perspective

- 15:00–15:30** Young Sung Choi, Korea Institute of Nuclear Safety (KINS) (Republic of Korea):
Regulatory Oversight of Human Factors with a New Initiative for Safety Culture in Korea
- 15:30–16:00** *Coffee Corners*
- Invited speakers:**
- 16:00–16:30** Hank Drumhiller, World Association of Nuclear Operators (WANO):
How did Individual and Organizational Use of Probability and Risk Assessment at TEPCO Contribute to the Fukushima Accident?
- 16:30–17:00** Daniel Tasset, WGHO, Nuclear Energy Agency (OECD-NEA):
The Role of Human and Organisational Factors in Unexpected and Extreme Situations: Contribution of the NEA/CSNI Working Group on Human and Organisational Factors (WGHO)
- 17:00–17:20** Questions and Answers for Afternoon Speakers
- 17:20–18:00** Panel Discussion

Thursday, 23 May 2013

08:30–18:00 **Parallel Technical Session IV-A:** Conference Room M3, M Building
Human and Organizational Factors in Nuclear Safety

Co-Chairperson: Kathleen Heppell-Masys (CNSC)

Invited speakers:

- 08:30–09:00** Carlo Rusconi, Nuclear Plant Management Company (SOGIN) (Italy):
Interactive Training: A Methodology for Improving Safety Culture
- 09:00–09:30** Suija Li, Research Institute of Nuclear Power Operation (RINPO) (China):
A TSO's Practice in China after the Fukushima Daiichi NPP Accident

Contributing speakers:

- 09:30–09:50** James C. Higgins, Brookhaven National Laboratory (BNL) (USA):
Importance of Human Performance to Safety in Complex Industries
- 09:50–10:10** Fred Dermarkar, Ontario Power Generation (OPG) (Canada):
Integration of Accident Management Strategies into Station Operation
- 10:10–10:40** *Coffee Corners*
- 10:40–11:00** Jagannathan Arunan, Atomic Energy Regulatory Board (AERB) (India):
Regulatory Challenges in the Interaction of Individuals, Technology and Organizations in the Management of Safety
- 11:00–11:20** Ryuji Kubota, Japan Nuclear Energy Safety Organization (JNES) (Japan):
Who Should Have Been in Charge of Decision-making under Extreme Conditions?

- 11:20–11:40** Annika Wahlström, Swedish Nuclear Fuel and Waste Management Company (SKB) (Sweden): *Interaction between Individuals, Technology and Organizations in Nuclear Facilities and Organizations – Today and in the Future*
- 11:40–12:00** Questions and Answers for Morning Presentations
- 12:00–12:30** Panel Discussion
- 12:30–14:00** *Lunch Break (13:30–14:00 Coffee Corners)*
- 14:00–14:20** Miodrag Stručić, Joint Research Centre (EC/JRC):
Analysis of Events Related to Human and Organizational Factors Using Different Coding Systems
- 14:20–14:40** Valerie Lagrange, Électricité de France (EdF) (France):
How to Take into Account Human and Organizational Factors in Nuclear Design?
- 14:40–15:00** Helen Rycraft, Magnox (UK):
The Lessons from Fukushima Daiichi in Human and Organizational Factors as Applied within a Nuclear Decommissioning Organization
- 15:00–15:20** Eberhard Grauf (Germany):
Managing an Emergency Situation on Site, a Plant Manager's View
- 15:20–16:00** *Coffee Corners*
- 16:00–16:20** Peter Ackroyd, Office for Nuclear Regulation (ONR) (UK):
ONR's Approach for Ensuring a Licensable Organization for the UK's New Build Projects
- 16:20–17:10** Questions and Answers for Afternoon Presentations
- 17:10–18:00** Panel Discussion
- 08:30–18:00** **Parallel Technical Session IV-B:** Conference Room M5, M Building
Influence of Culture on the Management for Safety
- Co-Chairperson:** Ian Grant (FANR)
- Invited speakers:**
- 08:30–09:00** Lena Kecklund, MTO Safety (Sweden):
System Safety — the Common Factors. The Influence of Culture on the Management of Safety: Examples from Different Industries
- 09:00–09:30** Shigeki Otsuka, Kansai Electric Power Co. (KEPCO) (Japan):
Efforts towards Safety Culture in KEPCO
- Contributing speakers:
- 09:30–09:50** Young-Gab Kim, Korea Hydro & Nuclear Power Company (KHNP) (Republic of Korea): *KHNP Activities for Safety Culture after the Fukushima Accident*

09:50–10:10	Ann-Mari Sunabacka-Starck, Radiation and Nuclear Safety Authority (STUK) (Finland): <i>Safety Culture Oversight – Finnish Experience</i>
10:10–10:40	<i>Coffee Corners</i>
10:40–11:00	Wang Lei, Ministry of Environmental Protection (China): <i>Enhancement of Safety Culture in China: Vision and Guidelines</i>
11:00–11:20	Jose Manuel Diaz Francisco, Eletronuclear (Brazil): <i>Overcoming the New Challenges in Safety after Fukushima</i>
11:20–11:40	Mohammad Iqbal, Pakistan Nuclear Regulatory Authority (PNRA) (Pakistan): <i>Role of Individual, Technology and Organizational (ITO) Factors in Managing a Nuclear Emergency</i>
11:40–12:00	Questions and Answers for Morning Presentations
12:00–12:30	Panel Discussion
12:30–14:00	<i>Lunch Break (13:30–14:00 Coffee Corners)</i>
14:00–14:20	Florien Kraft, French Nuclear Safety Authority (ASN) (France): <i>A Systemic Perspective to Improve the Human and Organizational Aspects of Nuclear Safety</i>
14:20–14:40	Tomasz Jackowski, National Centre for Nuclear Research (NCBJ) (Poland): <i>Preparation of TSO Support for the Polish Nuclear Power Programme in the Area of Nuclear Safety and Public Information</i>
14:40–15:00	Jean-Yves Fiset, CNSC (Canada): <i>Decision-Making in an Uncertain World: Regulatory Challenges</i>
15:00–15:20	Tom Anderson, Lancaster University (UK): <i>High Reliability Organization (HRO) Mindfulness: Ensuring Nuclear Safety</i>
15:20–16:00	<i>Coffee Corners</i>
16:00–16:20	Abdul Hameed Akbar, Chashma nuclear power plant (Pakistan): <i>Dimensions of Human Factors in Nuclear Power Safety</i>
16:20–17:10	Questions and Answers Afternoon Presentations
17:10–18:00	Panel Discussion

Friday, 24 May 2013

08:30–12:00 **Plenary Session V:** Conference Room M3, M Building
What have we learned?

Chairperson: Marta Ziakova (ÚJD SR)

Keynote presentations:

- 08:30–09:00** Nasir Afghan, Institute of Business Administration Karachi (Pakistan):
Nuclear Ecosystem and Safety Culture Self-Assessment at a Regulatory Body
- 09:00–09:30** Kerstin Dahlgren-Persson, Vattenfall (Sweden):
Strategic Vision and Implementation of Human and Organizational Factors in the Nuclear Industry

Summary of the Sessions:

- 09:30–10:00** Kathleen Heppell-Masys, CNSC (Canada):
Human and Organizational Factors in Nuclear Safety
- Ian Grant, FANR (United Arab Emirates):
Influence of Culture on the Management of Safety
- 10:00–10:30** *Coffee Break*
- 10:30–11:30** Marta Ziakova, ÚJD SR (Slovakia): Chairperson's Summary Report
- 11:30–12:00** Closing Remarks by DDG-NE and DDG-NS

Poster Sessions

- IAEA-CN-212/1 Jonathan Berman (UK):
Making Claims for Operator Response — Do We Have the Tools?
- IAEA-CN-212/2 Gueorgui Petkov (Bulgaria):
Fukushima Daiichi Nuclear Accident Context Research in Depth
- IAEA-CN-212/3 Nadja Železnik (Slovenia):
Understanding Risk Perception: Stakeholders Attitudes towards Nuclear Facilities
- IAEA-CN-212/4 Saleem A. Ansari (Pakistan):
Improvements in Technological and Human Factors in the Nuclear Safety based Fukushima Response Action Plan
- IAEA-CN-212/5 Jafarian Reza (Islamic Republic of Iran):
Identification and Modelling of Some of the Effective Factors in the Decision-Making Process of Typical VVER NPP Control Room Operators
- IAEA-CN-212/6 Rubén Ferro Fernández (Cuba):
The National Regulatory System for Promoting Learning Culture from Radiological Events

Exhibition of IAEA Materials on Human and Organizational Factors in the Management for Safety