



International Experts' Meeting

on

**Assessment and Prognosis in Response to a
Nuclear or Radiological Emergency**

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

PROGRAMME

20 – 24 April 2015

Vienna, Austria

Chairperson of the Meeting:	Robert Lewis, U.S. Nuclear Regulatory Commission, United States of America
Session 1 chair:	Cláudio Almeida, Comissão Nacional de Energia Nuclear, Brazil
Session 2 chair:	Vladimir Kutkov, National Research Centre Kurchatov Institute, Russian Federation
Session 3 chair:	Jean Jalouneix, Institut de Radioprotection et de Sûreté Nucléaire, France
Session 4 chair:	Yuichi Onda, Centre for Research in Isotopes and Environmental Dynamics, Japan
Session 5 chair:	Brian Ahier, Health Canada, Canada
Session 6 chair:	Lynn Hubbard, Swedish Radiation Safety Authority, Sweden
Session 7 chair:	Jeong Seung-Young, Korea Institute of Nuclear Safety, Republic of Korea
Scientific Secretary:	Elena Buglova, IAEA Department of Nuclear Safety and Security, Incident and Emergency Centre
Meeting Organizer:	Martina Neuhold, IAEA Department of Management, Conference Services Section
IAEA Secretariat	<p>The IAEA Department of Nuclear Safety and Security</p> <ul style="list-style-type: none"> -Kenneth Brooks, Division of Nuclear Security -Abdallah Amri, Division of Nuclear Installation Safety -Gerhard Proehl, Division of Radiation, Transport and Waste Safety -Florian Baciu, Incident and Emergency Centre -Joseph Chaput, Incident and Emergency Centre -Lyndon Bevington, Nuclear Safety Action Team <p>The IAEA Department of Nuclear Sciences and Applications</p> <ul style="list-style-type: none"> -Iolanda Osvath, IAEA Environment Laboratories -Carl Blackburn, Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture <p>The IAEA Department of Nuclear Energy,</p> <ul style="list-style-type: none"> - Pal Vincze, Division of Nuclear Power
Meeting Venue:	<p>International Atomic Energy Agency Vienna International Centre (VIC) M Building, Board Room A, Wagramer Strasse 5 1400 Vienna, Austria Tel.: (+43) 1 2600 21314 E-mail: official.mail@iaea.org</p>
Working Language:	English
Resolutions:	No resolutions may be submitted for consideration on any subject and no votes will be taken.

Monday, 20 April 2015

- 08:30-10:00** **On-Site Registration, Vienna International Centre, Gate 1**
- 10:00-12:30** **Opening Session**
- Chairperson:** Robert Lewis, U.S. Nuclear Regulatory Commission, United States of America
- 10:00-10:30** **(Welcome addresses by IAEA)**
- Denis Flory, Deputy Director General, Department of Nuclear Safety and Security
and
Mikhail Chudakov, Deputy Director General, Department of Nuclear Energy
and
Aldo Malavasi, Deputy Director General, Department of Nuclear Sciences and
Applications
- (Introductory comments)** Robert Lewis, U.S. Nuclear Regulatory Commission,
United States of America
- 10:30-11:00** **(Keynote)** Denis Flory, Deputy Director General, Department of Nuclear Safety
and Security, IAEA
- 11:00-11:30** **(Keynote)** Masashi Hirano, Director-General for Regulatory Standard and
Research, Nuclear Regulation Authority, Japan
- 11:30-12:00** **(Keynote)** Qu Liang, Director, Joint FAO/IAEA Division on behalf of the Food and
Agriculture Organization of the United Nations
- 12:00-12:30** **(Keynote)** Xu Tang, Director, Weather and Disaster Risk Reduction Services
Department, World Meteorological Organization
- 12:30-14:00** **Lunch Break**

Monday, 20 April 2015

14:00-17:30 Session 1: Assessment and Prognosis During a Nuclear Emergency

Session Chair: Cláudio Almeida, Comissão Nacional de Energia Nuclear, Brazil

14:00-14:30 **(Keynote)** Olivier Isnard, Institut de Radioprotection et de Sûreté Nucléaire, France: *Methodologies to support the prognosis of a developing situation and challenges in applying these during a response*

14:30-14:45 Gurdal Gokeri, Turkish Atomic Energy Authority, Turkey: *Comparison of Approaches for Urgent Protective Actions specified in the Draft National Radiation Emergency Plan of Turkey and adopted by the IAEA, HERCA-WENRA and Nordic Countries; Taking into Account Uncertainties in The Very Early Phase*

14:45-15:00 Roy Harter, Duane Arnold Energy Center, United States of America: *Accident progression and critical issues during reactor accidents - an End-User perspective*

15:00-15:15 Milan Hort, State Office for Nuclear Safety, Czech Republic: *System for assessment and prognosis during a nuclear emergency in the Czech Republic*

15:15-15:30 Inkoo Hwang, Korea Atomic Energy Research Institute, Republic of Korea: *Post-accident monitoring in pressurized heavy water reactor nuclear power plants*

15:30-16:00 **Break**

16:00-16:15 Lindley Perryman, Eskom, South Africa: *Koeberg NPP: Accident Assessment and Prognosis*

16:15-16:30 Ivana Valeria Sadañiowski, Nuclear Regulatory Authority, Argentina: *Emergency Preparedness and Response System for Nuclear Accidents in Argentina*

Discussion

17:30 **Adjourn**

18:00- 20:00 **Welcome Reception hosted by the IAEA**
(M-Building, Ground Floor)

Tuesday, 21 April 2015

**09:00-12:30 Session 2: Assessment and Prognosis During a Radiological
Emergency**

Session Chair: Vladimir Kutkov, National Research Centre Kurchatov Institute, Russian Federation

09:00-09:30 **(Keynote)** Stephanie Haywood, Public Health England, United Kingdom: *The assessment of doses after a radioactive release*

09:30-09:45 Lee Glascoe, National Atmospheric Release Advisory Center, United States of America: *Consequence assessment tool for radiological emergency support*

09:45-10:00 Steen Hoe, BRK, Denmark: *ARGOS, a tool for assessing exposures during a radiological emergencies*

10:00-10:15 Vladimir Kutkov, National Research Centre Kurchatov Institute, Russian Federation: *Radiological assessment and protection of first responders during a radiation emergency in EPC III and IV*

10:15-10:30 Volodymyr Berkovskyy, Radiation Protection Institute, Ukraine: *Monitoring and assessment of exposure from unplanned releases to the environment international requirements guidance documents and the experience of Ukraine*

10:30-11:00 **Break**

11:00-11:15 Silke Torchiani, AREVA GmbH, Germany: *AREVA computer codes for radiological consequence analysis*

11:15-11:30 Kotaro Tonoike, Japan Atomic Energy Agency, Japan: *Experience of the JCO Criticality Accident*

Discussion

12:30-14:00 **Lunch Break**

Tuesday, 21 April 2015

14:00-17:45 Session 3: Assessment of a Nuclear or Radiological Emergency Resulting from a Nuclear Security Event

Session Chair: Jean Jalouneix, Institut de Radioprotection et de Sûreté Nucléaire, France

14:00-14:30 (Keynote) Alexey Ferapontov, Deputy Chairman Rostekhnadzor, Russian Federation: *Regulatory measures to ensure the continued effectiveness of physical protection systems during a nuclear or radiological emergency caused by a nuclear security event*

14:30-14:45 David Kenneth Smith, IAEA: *The role of nuclear forensics supporting law enforcement investigations and nuclear security vulnerability assessments*

14:45-15:00 Klaus Mayer, Institute for Transuranium Elements Joint Research Centre, European Union: *Nuclear Forensics - Maintaining chain of custody of evidence during a nuclear or radiological emergency*

15:00-15:15 Ivan Gorinov, Division of Nuclear Material and Physical Protection, BNRA, Bulgaria: *Exercise Nautilus and lessons learned from the mixed security and emergency response*

15:15-15:30 Zhu Zhixuan, The Permanent Mission of China to the IAEA, China: *Approach to assessment and prognosis during nuclear security events*

15:30-16:00 *Break*

16:00-16:15 Edward Waller, University of Ontario Institute of Technology, Canada: *The Interface of Safety and Security in the Response to Malicious Acts*

16:15-16:30 Harvey Clark, Remote Sensing Laboratory, United States of America: *Coordinating Competing Priorities in a Nuclear Security Incident*

16:30-16:45 Sok Chul Kim, Korea Institute for Nuclear Safety: *A response supporting system for deterring illicit trafficking of nuclear and other radioactive material*

Discussion

17:45 *Adjourn*

Wednesday, 22 April 2015

09:00-12:30 Session 4: Environmental Modelling and Monitoring During Nuclear and Radiological Emergencies

Session Chair: Yuichi Onda, Centre for Research in Isotopes and Environmental Dynamics, Japan

09:00-09:30 **(Keynote)** Mark Zheleznyak, Department of Environmental Modelling of Mathematical Machines and Systems (IPMMS), National Academy of Sciences, Ukraine: *Prognosis and assessment of the consequences of the Fukushima Daiichi accident provided by the models of the decision support system RODOS*

09:30-09:45 Raul Perianez, University of Sevilla, Spain: *Marine transport modelling*

09:45-10:00 Tim Mueller, Institute for Nuclear and Energy Technologies (IKET), Germany: *The current status of the JRodas System*

10:00-10:15 Yuichi Onda, Centre for Research in Isotopes and Environmental Dynamics, Japan: *Time changes in radiocesium concentration in aquatic systems affected by the Fukushima NPP accident*

10:15-10:30 Gerhard Wotawa, WMO, *WMO Nuclear Emergency Response Activities in cooperation with the IAEA*

10:30-11:00 **Break**

11:00-11:15 Colin Okada, Remote Sensing Laboratory, United States of America: *Environmental Measurements in an Emergency*

11:15-11:30 Martin Bleher, Federal Office for Radiation Protection, Germany: *Dose reconstruction methods and source term assessment using data from monitoring networks and mobile teams - a German approach*

11:30-11:45 Iolanda Osvath, IAEA: *The emergency response capabilities of the Analytical Laboratories for the Measurement of Environmental Radioactivity (ALMERA) network*

Discussion

12:30- 14:00 **Lunch Break**

Wednesday, 22 April 2015

14:00-17:30 Session 5: Assessment of Food During Nuclear and Radiological Emergencies

Session Chair: Brian Ahier, Health Canada, Canada

14:00-14:30 **(Keynote)** Gerd Dercon, IAEA/FAO: *Online information Systems for optimizing Decision Making in Food Safety*

14:30-14:45 Anis Zouagui, Centre Nationale de l'Énergie, des Sciences et des Techniques Nucléaires, Morocco: *Implementation of information system to respond to a nuclear emergency affecting agriculture and food products - Case of Morocco*

14:45-15:00 Hiroshi Takemiya, Japan Atomic Energy Agency, Japan: *Software Platforms for Collecting, Managing and Providing Monitoring Data for Food and Agricultural Products*

15:00-15:15 Eva Smejkalova, ABmerit, Slovakia: *Connection between dispersion modelling and remote sensing*

15:15-15:30 Slobodan Jovanovic, Centre for Nuclear Competence and Knowledge, Montenegro: *Advanced quantitative gamma-spectrometry software for rapid and accurate assessment of food, feed, drinking water and other products during nuclear and radiological emergency*

15:30-16:00 **Break**

16:00-16:15 Svetlana Nestoroska Madjunarova, IAEA: *Criteria for decision making regarding food, milk and drinking water restrictions in a nuclear or radiological emergency*

Discussion

17:30 **Adjourn**

Thursday, 23 April 2015

09:00-12:30 Session 6: Assessment and Prognosis at the International Level

Session Chair: Lynn Hubbard, Swedish Radiation Safety Authority, Sweden

09:00-09:30 **(Keynote)** Elena Buglova, IAEA: *Role of the IAEA in assessment or prognosis during a nuclear or radiological emergency*

09:30-09:45 Hannele Aaltonen, STUK, Finland: *Finland's experience concerning bilateral exercises with IAEA*

09:45-10:00 Geza Macsuga, Hungarian Atomic Energy Authority (HAEA), Hungary: *Member State Experience in Participation in Bilateral Exercises with the IAEA to practice assessment and prognosis*

10:00-10:15 Jean-François Dodeman, Nuclear Safety Authority (ASN) France: *French support to the Herca-Wenra approach regarding assessment and prognosis and international perspectives*

10:15-10:30 Helena Chudá, State Office for Nuclear Safety of the Czech Republic (SÚJB), Czech Republic and Peter Hofer and Nina Cernočlawek, Austrian Ministry of Agriculture, Forestry, Environment and Water Management, Div. Radiation Protection (BMLFUW), Austria: *Czech-Austrian Cooperation and Data Exchange in case of Severe Nuclear Accidents*

10:30-11:00 **Break**

11:00-11:30 Joint presentation Canada, Mexico and IAEA: *Perspectives for assessment and prognosis process from an NPP exercise and a response to a real event*

Discussion

12:30-14:00 **Lunch Break**

Thursday, 23 April 2015

14:00-16:00 Session 7: The Provision and Management of Technical Data to Support Assessment and Prognosis

Session Chair: Jeong Seung-Young, Korea Institute of Nuclear Safety, Republic of Korea

14:00-14:30 **(Keynote)** Don Van Etten, National Security Technologies, Remote Sensing Laboratory, United States of America: *Consequence Management Under the National Response Framework*;

14:30-14:45 Gary Johnson, United States of America: *Data requirements during a severe accident*

14:45-15:00 Andy Woodruffe and Hussain Al Katheeri, United Arab Emirates: *Development of a Radiological and Nuclear Emergency Dose Assessment Program in an Embarking Nation*

15:00-15:15 Jeong Seung-Young, Korea Institute of Nuclear Safety, Republic of Korea: *Status of Assessment and Prognosis System for Nuclear Emergency Response in Korea*

15:15-16:00 **Discussion**

16:00-17:30 Poster Session (MO2 Poster Area)

Refreshments will be served

18:00 **Adjourn**

Friday, 24 April 2015

09:00-12:30 Closing Session

Chairperson: Robert Lewis, U.S. Nuclear Regulatory Commission, United States of America

09:00-10:30 Individual session summaries provided by each session chair

10:30-11:00 *Break*

11:00-12:00 Chairperson summary

12:00-12:30 **(Closing remarks)** Robert Lewis, U.S. Nuclear Regulatory Commission, United States of America

(Closing remarks) Denis Flory, Deputy Director General, Department of Nuclear Safety and Security

12:30 *Adjourn*

Poster Session (Thursday, 23 April 2015, 16:00-17:30)

Please note that the posters will be on display throughout the week

- IAEA - IEM 9 - 2 Luan Qafmolla (Institute of Applied Nuclear Physics (CANP), Albania)
- Approaches to Evaluate Safety and Security during using Radioactive Sources and Management of Radiological Situation at the Centralized Facility for Waste Storage in Albania*
- IAEA - IEM 9 - 3 Samir Mazidi (Centre de Recherche Nucléaire de Draria, Algeria)
- Development of a platform for the evaluation of the source term and the atmospheric dispersion of a nuclear facility in a radiological emergency event*
- IAEA - IEM 9 - 5 Antonio Carlos Alves Vaz (IPEN/CNEN-S.P, Brazil)
- How important is the nuclear emergency team to IEA-R/RR*
- IAEA - IEM 9 - 6 Pedro De Lima e Silva (CNEN, National Nuclear Regulator, Brazil)
- Implementation of the Argos Emergency Response System at Angra NPP site: Complex terrain requirements and applied solutions*
- IAEA - IEM 9 - 8 Nikolay Petrov Bonov (Kozloduy NPP, Bulgaria)
- Protective measures and source term prediction in emergency response of NPP Kozloduy*
- IAEA - IEM 9 - 10 Brian Ahier, Dominique Nsengiyumva and Christopher Cole (Health Canada, Canada)
- Canadian Decision Support System for Managing a Nuclear Emergency*
- IAEA - IEM 9 - 13 Li Pengbo (China Institute of Atomic Energy, China)
- Achievements and Technology of Nuclear Incident Consequence Assessment System in China*
- IAEA - IEM 9 - 14 Stela Zamboki (State of for Radiological and Nuclear Safety – SORNS, Croatia)
- Assessment and prognosis during the NPP accident in Croatia*
- IAEA - IEM 9 - 15 Yamil López Forteza (Centro Nacional de Seguridad Nuclear, Cuba)
- Lessons and challenges in the preparedness and response to radiological emergency: Cuban experience*
- IAEA - IEM 9 - 17 Aya Abaza (Nuclear and Radiological Regulatory Authority, Egypt)
- Assessment of radiation emergency preparedness in nuclear medicine*

Poster Session (Thursday, 23 April 2015, 16:00-17:30) - continued

Please note that the posters will be on display throughout the week

- IAEA - IEM 9 - 21 Tim Müller (Institute for Nuclear and Energy Technologies, Karlsruhe Institute of Technology (KIT), Germany)
- The Analytical Platform of the PREPARE project*
- IAEA - IEM 9 - 23 D. Apriliani, S. Suharyanta (National Nuclear Energy Regulatory Agency, BAPETEN, Indonesia)
- Nuclear Forensic as an important tool in Nuclear Security Event Investigation*
- IAEA - IEM 9 - 24 Eri Hiswara (National Nuclear Energy Agency (BATAN), Indonesia)
- Indonesia Approaches to Nuclear Emergency Preparedness and Responses*
- IAEA - IEM 9 - 28 Abdel Baset Rababa (Jordan Atomic Energy Commission, Jordan)
- Environmental Radiation Monitoring Plan for Jordan Research and Training Reactor (JRTR)*
- IAEA - IEM 9 - 31 Ieva Gatelyte (Radiation Protection Centre, Lithuania)
- Public Communication of Radiation Emergencies in Lithuania*
- IAEA - IEM 9 - 32 Hairul Nizam Idris (Radiation Safety and Health Division, Malaysian Nuclear Agency, Malaysia)
- Development of Mobile Emergency Monitoring System for Radiological Rapid Assessment during Nuclear & Radiological Accidents*
- IAEA - IEM 9 - 36 Muhammad Auwal Musa (Centre for Energy Research and Training (CERT), Ahmadu Bello University, Nigeria)
- Assessment of nuclear and radiological Emergency response at a nuclear facility in Nigeria*
- IAEA - IEM 9 - 35 Latifat Owoade, Isa Sambo (Nigerian Nuclear Regulatory Authority, Nigeria)
- Radiological Assessment of Funiwa Oil Field in Balyesa State, South-South Nigeria Following Fire Incident at an Oil Drilling Rig*
- IAEA - IEM 9 - 37 Albert Shapovalov (Scientific and Engineering Centre for Nuclear and Radiation Safety (SECNRS), Russian Federation)
- Emergency zones setting in order to control the spread of contamination and for monitoring the contamination levels of vehicles, personnel and territories*

Poster Session (Thursday, 23 April 2015, 16:00-17:30) - continued

Please note that the posters will be on display throughout the week

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| IAEA - IEM 9 - 38 | Slavica Ivkovic (Serbian Radiation protection and Nuclear Safety Agency, Serbia)

<i>Radiological monitoring during nuclear accident or radiological emergency in Republic of Serbia</i> |
| IAEA - IEM 9 - 39 | Milford Hanciles (Nuclear Safety and Radiation Protection Authority, Sierra Leone)

<i>Responding to Radiological Emergency</i> |
| IAEA - IEM 9 - 42 | Peter Carný (ABmerit, Slovakia)

<i>Protective measures based on the state of reactor and source term predicted (ESTE tool)</i> |
| IAEA - IEM 9 - 44 | Monika Krpelanova (ABmerit, Slovakia)

<i>Training and exercising of emergency response personnel – key task in nuclear emergency preparedness</i> |
| IAEA - IEM 9 - 43 | Bethany Louise Cawood (South African Nuclear Energy Corporation (NECSA), South Africa)

<i>Technical Basis for Necsa Emergency Planning Zones</i> |