Information System on Occupational Exposure

Expert Group: Management of Worker Doses During Severe Accident Conditions

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International Experts' Meeting on Severe Accident Management in the Light of the Accident at the Fukushima Daiichi NPP
March 2014, Vienna / Austria

ISOE Programme

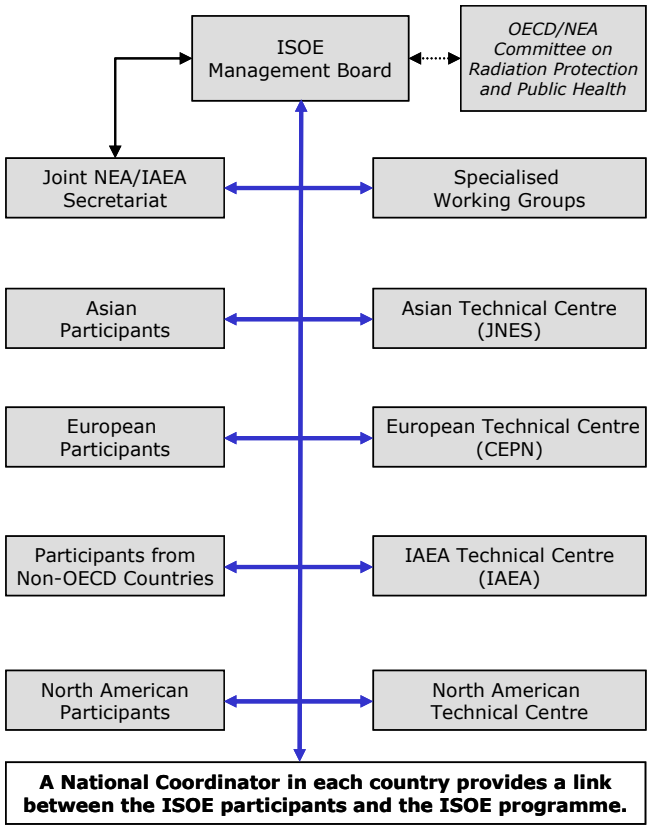
- Created in 1992 by OECD/NEA as a forum for RP experts from utilities and regulatory authorities world-wide to share amongst participants dose reduction information & coordinate projects to improve optimisation of worker radiological protection at NPPs
  - *Promoted and sponsored by NEA and IAEA*

"... the exchange and analysis of information on collective radiation doses to the personnel of nuclear installations and to the employees of contractors, as well as on dose-reduction techniques, is essential to implement effective dose-control programmes and to apply the ALARA principle..."

(ISOE Terms and Conditions, 2012-2015)

ISOE facilitates occupational exposure management at NPPs through the operation of a system for exchanging, storing, and analysing operational information and experience on optimising occupational radiological protection in response to user needs:

- World's largest occupational exposure database for commercial NPPs
- An information exchange programme for sharing dose reduction information and experience
- Four ISOE technical centres support local members (Asia, Europe, North America and IAEA)



Database

TCs leads
NEA IT

WGDA

- Task Team on Decommissioning
- Expert Group on Water Chemistry and Source-Term Management
- Expert Group on ORP in Severe Accident Management EG-SAM

Network

ETC leads

Main communication platform

- RP Library
- Experience reports
- RP Management
- Plant information
- RP Forum

- Each group has specific mandate
- Product oriented
- Time limited

ISOE Products

ISOE Databases

https://www.oecd-nea.org/isoeweb/login.html?cameFrom=%2Fisoeweb%2Findex.html

Technical Support

Annual and Topical Reports

ISOE

INFORMATION SYSTEM ON OCCUPATIONAL EXPOSURE

Technical Analyses

ISOE ALARA Symposia

ISOE Network

http://www.isoe-network.net/

EG-SAM Background

- April 2011: ISOE Bureau launched early response to the Fukushima NPP accident, including:
  - management of high radiation area worker doses from previous nuclear power plant accidents;
  - effective use of personal protective equipment (PPE) and high-radiation area worker dosimetry for different types of emergency and high-radiation work situations.
- May 2011: ISOE Management Board established the Expert Group on Occupational Radiation Protection in Severe Accident Management (EG-SAM).

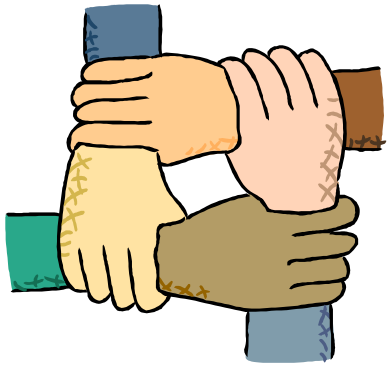
Objectives of EG-SAM

- Contribute to occupational exposure management by providing a view on management of high radiation area worker doses;
- Develop a state-of-the-art ISOE report on best radiation protection management practices for proper radiation protection job coverage during a severe accident; and
- Identify RP lessons learned from previous reactor accidents.

Membership

Representatives from:

- Armenia
- Belgium
- Brazil
- Canada
- Czech Republic
- Finland
- France
- Germany
- Japan



- Republic of Korea
- Romania
- Russian Federation
- Slovak Republic
- Spain
- Sweden
- Switzerland
- Ukraine
- United Kingdom
- United States of America
- ISOE Joint Secretariat

Report Topics

- **RP Management and Organisation**

  Emergency Response Plans, Command Facilities, Response Organisation,

  Decision making and Prerequisites for On-site Radiation Protection Decisions

- **RP Training and Exercises related to Severe Accident Management**

  Preparedness program activities, development of training instructions, Types, Qualification, RP aspects for SAM, and Management of the Administrative Aspects

- **Facility Configuration and Readiness**

  Design features, Portable ER requirement and supplies

- **Overall Approach for Worker Protection**

  Reference levels, Protective measures, Planning, Permits and Execution and Control, Exposure control, non-radiological health aspects and health surveillance

- **Monitoring and Managing the Radioactive Releases and Contamination**

  Radiological releases (gaseous, liquid), on-site and off-site contamination monitoring, management of contamination

- **Key Lessons Learned from Past Accidents**

  Chernobyl and Fukushima (to be extended with Three Mile Island - 2)

Interim Conclusions

- As for all emergency situations, extensive emergency response plans are essential for protecting the public and emergency workers/responders.
- Specialized radiation protection training and exercises related to severe accident management are imperative for emergency workers/responders.
- Effective implementation of a radiation protection programme during a severe accident may be significantly impacted by facility configuration and controls.
- Individual worker protection, including the establishment of individual exposure reference levels, extensive work controls, and thorough radiological exposure controls, are necessary to maintain emergency worker/responder radiation exposures ALARA.
- During the emergency and post-accident mitigation phases, radioactive and contaminated materials released internally and externally from the affected facility require extensive radiological controls to avoid or minimize radiation exposures to emergency workers/responders and the public.
- There are always lessons to be learned from accidents such as Chernobyl and Fukushima.

Available @ **http://www.oecd-nea.org/rp/docs/2013/crpph-r2013-7.pdf**

Workshop

Upcoming

International Workshop on

Occupational Radiation Protection in Severe Accident Management

Sharing Practices and Experiences

17-18 June 2014

Washington, DC, USA

Co-sponsored by

OECD Nuclear Energy Agency

International Atomic Energy Agency

Hosted by

Nuclear Energy Institute

Venue: 1201 F Street, N.W.
Suite 1100
Washington, DC USA

Workshop Objectives & Format

Share practices and experiences in approaches to severe accident management:

- provide an international forum for information and experience exchange;
- identify best occupational radiation protection approaches in strategies, practices, as well as limitations for developing effective management;
- identify national experiences to be incorporated to the final version of ISOE EG-SAM report.

Format

- Series of plenary presentations providing overview of international practices and experiences in severe accident management and
- Breakout sessions discussing common themes and issues for possible inputs into the report.

Target Audience & Outcomes

The workshop is limited to 80 persons and cross-section of radiation protection professionals from nuclear utilities and national regulatory authorities such as:

- Nuclear Electricity Utilities
- Radiation Protection and Emergency Management Authorities
- Technical Support Organisations
- International Organisations (e.g., OECD/NEA, IAEA, EC)

Outcomes

Following the workshop, the proceedings (presentations, discussion summaries and conclusions) and final version of the EG-SAM report will be prepared and made available to participants and other interested parties.

Registration & Deadlines

- No registration fee
- Pre-registration is required; deadline for registration is **30 May 2014**.
- Final program: 28 April 2014

Workshop web-page

http://www.oecd-nea.org/jointproj/isoe/workshop/

- Information on accommodation and optional activities

Registration

http://www.oecd-nea.org/confdb/confdb/conf?id=142

Thank you for your attention

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More information @

http://www.oecd-nea.org/jointproj/isoe.html
http://www.isoe-network.net