

International Conference on Topical Issues in Nuclear Installation Safety

21 – 24 October 2013

**Defence in Depth: Advances and Challenges for
Nuclear Installation Safety**

Topical Session 2 Report



IAEA

International Atomic Energy Agency

Topical Session Number 2

- List of presentations:
 - K. Ellis, WANO, Discussion on risk in complex operational settings
 - N. Langerman, USA, Lessons learned from process safety management a practical guide to defence in depth
 - A. Moskalenko, Russian Federation, Lessons learned from accidents at hydropower plants and nuclear power plants
 - S. Fabri, Argentina, Life management and safety of nuclear facilities
 - F. Dermarkar , Canada, Guidance on the implementation of modifications to mitigate beyond design basis accidents
 - G. Vieru, Romania, Enhancing NPP safety through an effective dependability management
 - P. Lindahl, Sweden, Safety analysis in design and assessment of the physical protection of the OKG NPP

Topical Session Number 2

- **Operating Experience**

- The IAEA and WANO should continue to cooperate in the area of operating experience (sharing of experience and lessons learned)
- It appears very useful for nuclear safety to share experience between nuclear industry and other industries (chemical, petrochemical, aviation, hydro...)
- The national regulatory authorities are encouraged to submit more reports about most meaningful events and good practices to the IAEA International Reporting System (IRS)

Topical Session Number 2

- **Design Extension Conditions (Beyond Design Basis Accidents)**

Although the approaches have been already developed which allows rationalization of present improvements, further effort is necessary to learn and provide guidance to:

- Achieve practical elimination
- Deal with design extension conditions
- The use of mobile versus fixed equipment

Topical Session Number 2

- **Prevention and mitigation to be strengthened in operational safety:**
 - The IAEA should continue to assess Emergency planning and response and Accident management during the OSART missions
 - The conference is welcoming the WANO initiative to include Emergency planning and response and Accident management into WANO Peer review programme
 - DiD concept should be further enhanced in the area of maintenance

Topical Session Number 2

- The IAEA should revise the Safety Report 46 “Assessment of defence in depth for nuclear power plants”.
- As developed by chemical industry, it would be welcomed in the nuclear industry to develop animated reconstructions of events which have significant lessons to be learned
- The IAEA should consider making a gap analysis between INSAG 10 and other relevant documents such as the IAEA safety requirements and guides and “Process Safety Management”, as described in 29 CFR 1910.119