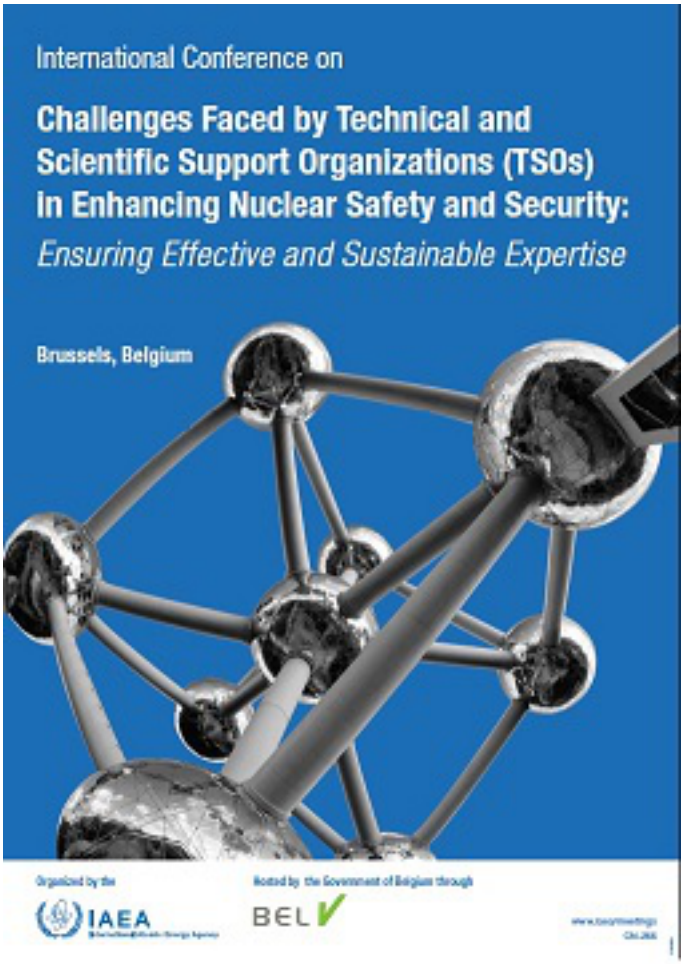
International Conference on the Challenges Faced by Technical and Scientific Support Organizations (TSOs) in Enhancing Nuclear Safety and Security: Ensuring Effective and Sustainable Expertise



Monday 15 October 2018 - Thursday 18 October 2018

Scientific Programme

The conference will highlight the importance of scientific and technical capabilities to support regulatory decision-making for enhanced nuclear and radiation safety and security. While addressing challenges to the development, maintenance and enhancement of such capacities, the conference will:

• Evaluate actions undertaken to address the recommendations from previous TSO conferences;
• Promote understanding of the roles, functions and value of TSOs in enhancing nuclear and radiation safety and security and, in particular, addressing challenges related to embarking, existing or expanding nuclear power programmes, with a particular focus on capacity building;
• Discuss the role and achievements of the Technical and Scientific Support Organization Forum (TSO Forum);
• Present the need for, and benefits of, self-assessment for TSOs to maintain and enhance their technical and scientific capabilities to support regulatory bodies' decision-making process;
• Discuss the significant contribution of the TSOs' safety assessment work to the continuous updating and revision of the IAEA safety standards;
• Address the role of TSOs in enhancing nuclear and radiation safety in applications other than nuclear power;
• Highlight the main methods for supporting the development of scientific and technical expertise, including research and development;
• Facilitate the exchange of experience and good practices in capacity building activities, and in the recipient countries' arrangements for identifying areas in which they require assistance;
• Discuss ways to enhance international cooperation through IAEA safety and security networks, bilateral cooperation, and Nuclear Security Training and Support Centres (NSSCs) or centres of excellence.

Session 1: General Role of Technical and Scientific Support Organizations

1.1 Experiences of regulatory bodies receiving support from TSOs
1.2 Experiences of TSOs supporting regulatory bodies

Session 2.1: Nuclear safety assessment

• New-builds, small and medium sized or modular reactors
• Long term operation (ageing, life management, safety upgrades, design life extension)
• Decommissioning and dismantling
• Current challenges in nuclear safety related research and development (R&D), including severe accident related research
• The use of research for developing regulations
• Challenges met by embarking countries

Session 2.2: Radiation safety

• Advanced techniques and associated challenges in medical and industrial applications
• Shielding design assessment in medical and industrial applications
• Quality management systems for radiation measurements, calibration and monitoring
• Environmental monitoring
• Current challenges in radiation safety related R&D

Session 2.3: International cooperation among TSOs

• Developing codes and simulation tools
• Joint assessment
• The OECD/NEA's Multinational Design Evaluation Programme
• Interaction between recipient country TSOs and vendor country TSOs
• Interaction through the Nuclear Energy Agency of the Organisation for Economic Co operation and Development (OECD/NEA) and IAEA safety and security networks

Session 3: Role of Technical and Scientific Support Organizations in Emergency Preparedness and Response

3.1 Challenges faced by the TSOs when providing support in preparedness for and response to nuclear and radiological emergencies
3.2 Challenges in the development of assessment tools for emergency preparedness and response (EPR) and lessons learned from their practical use while testing them, conducting exercises or using them in a real emergency
3.3 Demonstration of existing assessment tools
3.4 International cooperation and assistance in EPR

Session 4: Other Challenges Faced by Technical and Scientific Support Organizations

4.1 Conflicts of interest
4.2 Civil society and public communication
4.3 Synergies between safety and security (including interaction between TSOs and NSSCs)

Session 5: Key Components Needed to Develop and Maintain Technical Expertise

5.1 Education, training and tutoring
5.2 Knowledge management
5.2 Human resources

Session 6: Initiatives to Develop and Maintain Technical and Scientific Capabilities

6.1 Examples of implementation of a national strategic policy
6.2 IAEA peer review and advisory services such as Integrated Nuclear Infrastructure Review (INIR) and Integrated Regulatory Review Service (IRRS) missions
6.3 TSO Forum-developed TECDOC, case studies and self-assessment methodologies
6.4 School of leadership

6.5 Networking