

The Science of Nuclear Safety and Security

IAEA Backs the Work of Technical and Scientific Support Organizations in Safety and Security.

Whether in countries with an established nuclear power programme or in those about to embark on one, technical and scientific support to regulatory practices and operator processes is crucial for building and maintaining a system that guarantees the safety and security of nuclear and radiological materials.

“Nuclear safety and security is science-based knowledge: you must develop this knowledge through research,” says Denis Flory, IAEA Deputy Director General and Head of the Department of Nuclear Safety and Security.

“Besides, in nuclear safety and security you must have a questioning attitude, which is also the essence of research.”

Expertise in physical protection and accounting of nuclear and other radioactive material in use, storage and transport, and the associated facilities, as well as experience in the maintenance of systems, equipment and associated software used for effective border monitoring and for radiological threat assessment, are the fundamentals of safety and security.

This knowledge is developed through technical and scientific support organizations (TSOs), neutral and official organizations that provide the basis for decisions and activities regarding nuclear and radiation safety. The quality of the technical and scientific expertise provided by TSOs to the nuclear industry and their contribution to effective regulatory systems are of fundamental importance. For many years, the IAEA has been supporting the work of TSOs, by helping the TSOs promote their technical competence, transparency and observance of ethical principles.

“The IAEA is preparing safety standards on external expert support, also focusing on issues such as the independence of TSOs and their role in research,” explains Flory.

The technical and scientific support for developing a country's nuclear safety and security infrastructure, partnering with the regulatory authority, human resource development, networking and capacity building were just a few of the topics discussed at the International Conference on Challenges Faced by Technical and Scientific Support Organizations in Enhancing Nuclear Safety and Security conference, held from 25 to 29 October 2010 in Tokyo, Japan.

The event was organized by the IAEA and hosted by the Government of Japan through the Japan Nuclear Energy Safety Organization (JNES) in collaboration with the country's Nuclear and Industrial Safety Agency.

The conference came at a dynamic time when interest in nuclear power generation was, and is, quickly growing with several countries contemplating, embarking on, or expanding nuclear power programmes around the globe. More than 270 participants joined top leaders, experts, and panellists from nuclear regulatory authorities and TSOs from 57 countries to discuss issues, network and share information.

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