

Chapter 8

Introduction



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During this Session, safeguards verification activities, implemented since the signature of the EURATOM Treaty, have been reviewed and discussed.

Both the IAEA and the EC DG ENER illustrated the effectiveness of the safeguards implementation and the benefits of the close cooperation in jointly conducted verification activities.

IAEA stressed the need for innovation, state of the art software and analysis tools and to strengthen the capabilities to detect anomalies, especially because the amount of information available to nuclear safeguards is steadily growing from a variety of sources. Another key message was the need of partnering, for the IAEA, with state authorities, academia, industry etc.

DG ENER reported to have four areas of priorities: the operational capability to analyse samples, the evolutionary development of new measurement and containment/surveillance technologies, the more revolutionary introduction of new sensors, robotics and use of Commercial Off The Shelf (COTS) technologies and finally the necessity to explore better the world of data with intelligent analysis tools.

During the session the contribution of JRC in supporting nuclear safeguards inspection were highlighted w.r.t technological innovations, in field support, training and education. It is clear that the Member States themselves deliver a crucial contribution to the implementation of new safeguards initiatives. A significant example of this joint effort is the safeguards developed for the Final Repository of spent nuclear fuel in Finland run by the STUK, the Nuclear Safety Authority and including contributions by JRC with a 3D-laser system for design information verification.

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L. Maiani et al. (eds.), *International Cooperation for Enhancing Nuclear Safety, Security, Safeguards and Non-proliferation—60 Years of IAEA and EURATOM*, Springer Proceedings in Physics 206, https://doi.org/10.1007/978-3-662-57366-2_8

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As representative of a Member State-based organisation, STUK illustrated the technical synergies between security and safeguards of managing the regulatory control of the new nuclear power plants and the new type of facility, based on the Authority's experiences. Practical examples and possibilities to use of novel technology, research and development work to confirm the safe and peaceful use of nuclear energy have also been provided.

The objective of the state regulatory authority is to ensure that the use of nuclear energy is implemented in compliance with nuclear safety, security and safeguards. While nuclear safety measures aim to ensure the safety of normal operations, a low probability of accidents, and effective emergency preparedness, nuclear security and safeguards approach the joint fundamental objective from another angle, by combating unlawful and other intentional unauthorized acts. These objectives apply not only to the operating power plants but also to planning, designing, constructing and commissioning of the new nuclear installations and nuclear waste facilities as well as the decommissioning old facilities. Coordination of safety, security, safeguards, their interfaces, synergies and conflicts is essential for achieving the objectives. New technologies, research and development are supporting verification and other measurement activities by the regulator. Close cooperation between research and development assist in confirming the safe and peaceful use of nuclear energy.

One of the major outcomes of the presentations given during this session as well as of the following discussion has been the recognition of the successful implementation in the past years of technical synergies between safeguards and security. Unanimous consensus was reached in confirming the importance of fostering safeguards and security initiatives for the future.

As stated by the representative of DG ENER, EURATOM Safeguards are an important cornerstone of global non-proliferation of nuclear materials and verification of their civil use.

After 60 years of operations, EURATOM Safeguards are as important as in the beginning, but the steady growth of nuclear activities and the enlargement of the EURATOM Community have created several challenges for the years to come. New facility types and new technologies can be addressed, but the changing geopolitical situation, new asymmetric threats and the changing public perception of nuclear energy altogether will require new strategic thinking. Along the technical lines, a solid political positioning of EURATOM Safeguards is required, respecting international relations as well as the context of Energy Union, Security Union and Clean Energy for all Europeans.

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