



IAEA

International Atomic Energy Agency

Technical Meeting on the Safety and Security Interface

Approaches and National Experiences

Background:

- Nuclear safety and nuclear security have a common objective: the protection of people, society and the environment
 - many actions serve to enhance both safety and security simultaneously
 - there are also circumstances in which actions to serve one objective may be contradictory to the achievement of the other
- Both safety and security follow a strategy of **Defence in Depth**, the employment of several levels of protection
- Leadership and management principles for safety and security are covered by the same management system
- **INSAG 24** gives a thorough discussion on these issues for nuclear power plants
- AdSec and INSAG intend to produce jointly a new report, of a broader scope, with a working title **Synergies between Nuclear Safety and Nuclear Security**

Background (cont):

- **IAEA General Conference resolutions GC(61)/RES/8 and GC(61)/RES/9** both requested that – quote _- “the Secretariat, while recognizing the distinction between nuclear safety and nuclear security, to continue facilitating in close cooperation with Member States a coordination process to address their interfaces in a timely manner, and encourages the Agency to develop safety and security publications, ensure consistency and to foster culture accordingly”.
- **IAEA Safety Fundamentals: SF-1, and IAEA Nuclear Security Fundamentals, NSS20, ...** Security measures and safety measures have to be designed and implemented in an integrated manner so that security measures do not compromise safety and safety measures do not compromise security.

Activities:

- General Safety Requirements: GSR- Part 1 and GSR Part 7
- Specific Safety Requirements cover the interface between safety and security in different stages of installations' lifetime:
 - **Nuclear Power Plants:** SSR-2/1 (2016) and SSR-2/2 (2016);
 - **Research Reactors:** SSR-3 (2016);
 - **Nuclear Fuel Cycle Facilities:** SSR-4 (2017).
- SSG-34 and SSG-39, on design of electrical system and I&C for NPP, include the safety and security interface.
- Other SSGs for nuclear installations are under revision, and will include guidance on the interface

Activities (cont):

- IAEA Nuclear Security Recommendations on Physical Protection of Nuclear Materials and Nuclear Facilities, NSS-13, : the recommended physical protection measures should be additional to, and not a substitute for other measures established for nuclear safety, for a new nuclear facility.
- NSS-13: the site selection and design should take physical protection into account as early as possible. The interface between physical protection and safety avoid any conflicts and to ensure that all elements support each other.
- Sabotage targets should include safety related equipment and devices based on safety analysis.
- Nuclear security systems and measures should take advantage of safety provisions and procedures.

Activities (cont):

– Technical documents:

- TECDOC 1801: Management of the Interface between Nuclear Safety and Security for Research Reactors, (2016).
- TECDOC on Regulatory Oversight of Safety and Security Interface for Nuclear Power Plants (under development).
- TECDOC on Managing The Interface Between Safety And Security For Normal Commercial Shipments Of Radioactive Materials (final stage of development).
- TECDOC on Notification, Authorization, Inspection and Regulatory Enforcement Procedures for the Safety and Security of Radioactive Sources in Use and Storage and of Associated Facilities” (final stage of development).

Activities (cont):

- Safety infrastructure and nuclear security infrastructure. (SSG16, NSS19 and SSG44).
- Code of conduct on the safety and security of radioactive sources, global framework for the achieving a high level of safety and security of radioactive sources.
- Includes provisions for effective national legislation and regulations, regulatory effectiveness, Notification, authorization, inspection, enforcement systems.
- 137 MSs expressed political commitment

Safety and Security Interface

- CS and previous discussions:
 - Meaning
 - CSS and NSGC
 - SPESS
 - Technical Documents
 - Identify issues and/or approaches addressing the Interface for facilities and activities
 - Practical guidance
 - ConvEX-3 exercises
 - Safety and Security Interface over the whole lifetime/life cycle of facilities and activities, including emergency arrangements
 - Exchange information and lessons learned
 - Responsibilities and coordination mechanisms
 - Promote nuclear security culture and nuclear safety culture

Technical Meeting on the Safety and Security Interface



Objectives:

- *to identify and present the most important safety and security interfaces and the current management approaches for facilities and activities implemented by governments, competent authorities, regulators, operators and users in Member States;*
- *to identify challenges, gaps and good practices in this area;*
- *to discuss and recommend future IAEA activities that support addressing the safety and security interfaces.*

Technical Meeting on the Safety and Security Interface



- About 140 external participants
- 5 technical sessions with 20 presentations
- 5 workings groups
 - Legal and Regulatory Framework
 - Nuclear Installations
 - Radioactive Sources, Associated Facilities and Activities
 - Management Systems, Nuclear Safety and Security Culture
 - Emergency preparedness and response

Legal and Regulatory Framework



- Management of the interfaces between safety and security.
- Single or separate regulatory bodies and other authorities.
- Cooperation and coordination among competent authorities for fully utilizing their safety-security knowledge and expertise.
- Ensure that there will be no gaps in addressing safety and security matters
- Roles, responsibility and missions of the regulatory body, competent authorities and operators/users
- Communication and coordination among these entities
- Regulatory approach (prescriptive or performance based)
- Methodologies and processes
- Compliance with regulatory requirements
- Licensing process for safety and security matters (inspection)
- Terminology and training aspects

Nuclear Installations



- Common understanding between nuclear safety and nuclear security disciplines, management, Int'l exp/feedk
- Working together to improve synergy
- Consequence assessment should always be the same no matter what is the initiating event
- Licensing aspects, site evaluations
- Safety-security envelope, design, graded approach (early)
- Aircraft crash (Containment , safety buildings), Explosions (Design of barriers), I&C (Electromagnetic interference, Cyber threats) I&C design, Fire safety vs. security
- Impact of changes
- Equipment categorization
- Use tools to identify clashes
- Integrated assessment and understanding of challenges
- Need of increase the awareness and relationships
- Balance between transparency and confidentiality LR

Radioactive Sources, Associated Facilities and Activities



- Different organizations involved
- Lack of resources and competences
- Identify gaps/lack of an interface
- Transport of radioactive sources
- Documents support
- Training courses for safety & security for regulators/users
- Decision making process (conflicts)

Management Systems, Nuclear Safety and Security Culture

- GSR part 2 Leadership and Management
- Nuclear Security Culture in NSS 7
- Integrated management system
- Inclusive definition and procedures
- Issues: transparency vs. confidentiality of information and sharing experience
- Differences between national approaches
- Behavioural and organisational practices
- Promotion of the safety and security interface
- Methodology for evaluation culture regarding safety and security interface
- Training needs
- Manage conflicting situations

Emergency preparedness and response



- Cover both safety and security events
- Meaning/terminology
- Command and control requires extensive coordination on safety-security
- Identification of cross-cutting issues
- International assistance for safety and security
- Allocate roles and responsibilities for decision-making at all level
- Training on interfaces (national, regional, international) -
- Joint Testing/Evaluation/Exercises to ensure good coordination (scenarios) / ConvEx
- Threat and Hazard assessments and Risk and consequence assessments
- Documents and guides



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Thank you!

