Approaches to interface between nuclear safety and nuclear security in the Russian Federation from regulatory point of view

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INTRODUCTION

Definition of “interface between nuclear safety and nuclear security”:

➢ the common aim of protecting human life and health and the environment from the harmful effects of ionizing radiation;

➢ both measures must be designed and implemented in an integrated manner;

➢ security measures mustn’t compromise nuclear safety and safety measures mustn’t compromise nuclear security.

➢ This report relates to interface between safety & security in the Russian Federation from regulatory point of view only.
OBJECTIVE

Safety-security Interface is an issue of current interest

- WENRA Task Force Group on interface safety-security:
  2 meetings in 2018 – 6, March and 1-2, October.
  As a result a report “Interfaces between Nuclear Safety and Nuclear Security” was worked out

- Other meetings, conferences and sessions (including this meeting)

- Interest from many states

The Russian Federation studies other states’ experience in implementation of safety-security interface practices for development of regulatory requirements in the field of atomic energy use
There are components of nuclear security in the following systems in the Russian Federation, which are regulated by different federal executive bodies:

- **Material Protection, Control & Accounting (MPC&A), including Physical Protection** – regulated by the Federal Environmental, Industrial and Nuclear Supervision Service
- **Information security** – regulated by the Federal Service for Technical and Export Control
- **Prevention of illicit cross-border transportation** – regulated by the Federal Customs Service
- **Antiterrorist protection** – regulated by the Federal Security Service
- **Other issues** – regulated by other Ministries and Federal Services (such as Ministry of Internal Affairs, Ministry of Emergency Situations etc.)
The main principles are set out in the following federal laws:

- N 170-FZ “On the use of atomic energy”;
- N 149-FZ “On information, information technologies and information protection”;
- N 184-FZ “On technical regulation”;
- N 35-FZ “On the combating of terrorism”.

Each federal executive body has its own regulatory framework.

As for MPC&A (regulated by the Federal Environmental, Industrial and Nuclear Supervision Service) there are federal rules and regulations and safety guides in the field of atomic energy use that took into consideration IAEA guides.
Federal rules and regulations concerning nuclear and radiation safety and security (MPC&A) are developed and put in force by uniform order according to procedures set up by the Federal Environmental, Industrial and Nuclear Supervision Service. Federal rules and regulations shall be agreed with the concerned nuclear supervision bodies. Document projects are subject to publication in official press and on official website before approving.
IMPLEMENTATION OF INTERFACE CONCERNING MPC&A.
LICENSING

Regulations

Requirements for the scope and content of documents that justify the safety. There are 4 sets of issues related to MPC&A.

Safety review

Safety review is a complex process concerning issues that relate to all parts of safety and security, including MPC&A.

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This is a single document that contains parts about safety and security (MPC&A).
IMPLEMENTATION OF INTERFACE CONCERNING MPC&A.
STATE SUPERVISION

Comprehensive inspections
Contain all parts of safety and security, including MPC&A.

Targeted inspections
Contain only one part of safety or security (for example Physical Protection) but violations in other safety are also covered.
These principles used for both systems:

- **Graded approach** based on determining of possible consequences and the level of associated risk

- **Defense in depth** that used deployment of different levels of diverse equipment and procedures to prevent the escalation of anticipated operational occurrences and to maintain the effectiveness of physical barriers

**Working Committee**

the supreme authority of Federal Environmental, Industrial and Nuclear Supervision Service, that discuss about federal rules and regulations before it approving. **Working Committee** includes safety and nuclear security experts and managers.
And safety and security requirements cover all life-cycle stages:

- Sitting
- Designing
- Construction
- Operation
- Decommissioning

Annual meetings on issues of situation of Physical Protections on NPPs

There are heads of NPPs speak about situation of Physical Protections
Interface between Nuclear Safety and Nuclear Security is implemented in the Russian Federation on the whole, although there are specific issues related to the established and existing regulatory framework and management system;

There are no necessity and economic expediency for existing plants to follow newly developed safety standards (including safety and security interface). In case of detecting weak points it is possible just to take compensative measures (specific for each case) for improving of situation;

At the same time it’s expedient to study other states’ experience on this issue (safety-security interface) and develop and implement such safety standards in the Russian Federation.
Thank you for your attention!