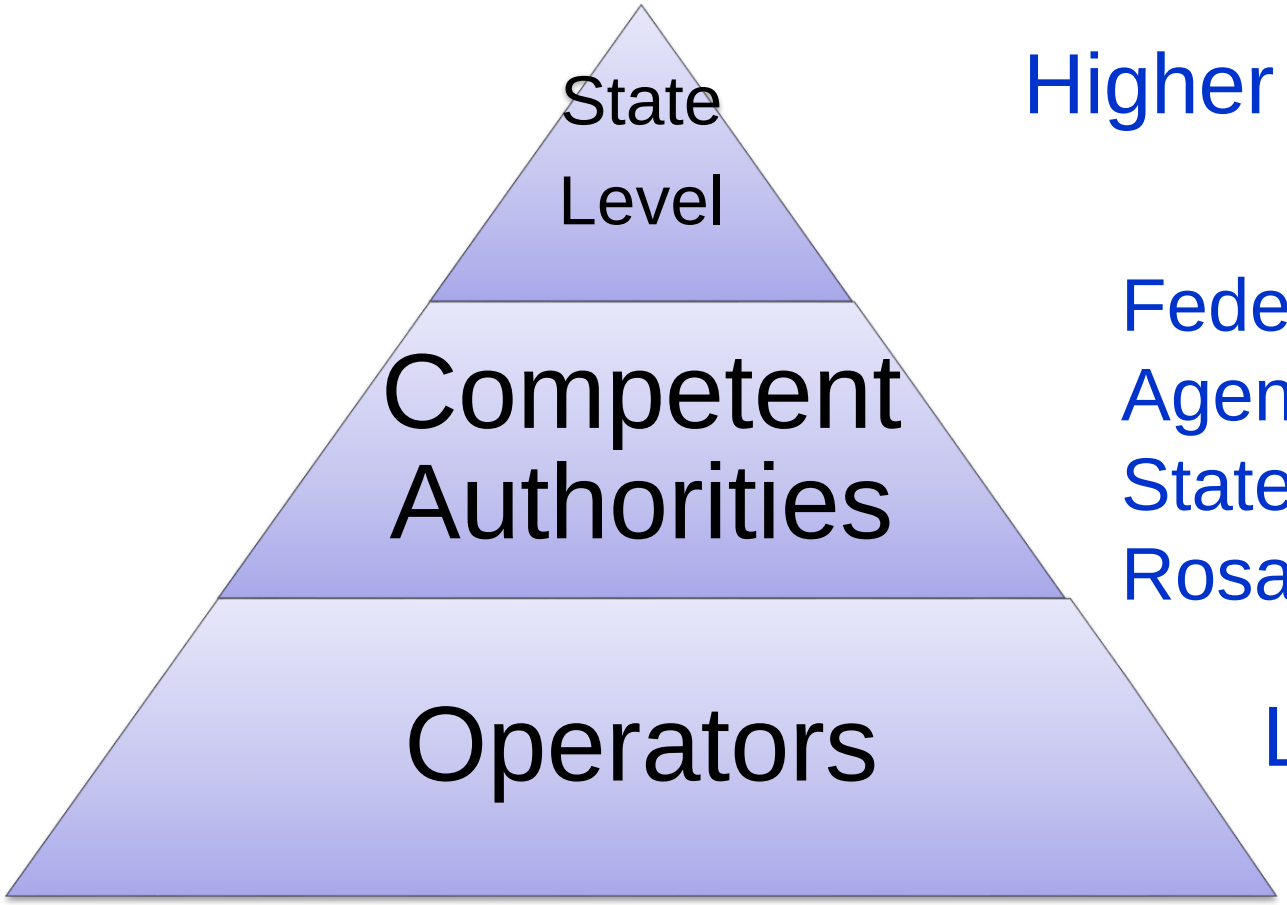
Federal Environmental, Industrial and Nuclear Supervision Service of Russia (Rostechnadzor)

Rostechnadzor experience in the use of the IAEA recommendations during improvement of the regulatory framework for the physical protection of nuclear material and nuclear facilities

Maksim Ivanov

International Conference on Physical Protection of Nuclear Material and Nuclear Facilities
13-17 November, 2017
Vienna

Responsibilities in Nuclear Security



Higher authorities

Federal Ministries and Agencies,
State corporation Rosatom

License holders

The Federal Environmental, Industrial and Nuclear Supervision Service of Russia (Rostechnadzor)

The Statute of Federal Environmental, Industrial and Nuclear Supervision Service

Approved by Decree of the Government of the Russian Federation No. 401 of July 30, 2004

Federal executive body

It's managed by the Government of the Russian Federation

Federal state supervisory body in the field of atomic energy use

Rostechnadzor activities on physical protection of nuclear material and facilities

Competent authority of the Russian Federation under the Amendment to the Convention on the Physical Protection of Nuclear Material

Regulation of physical protection of nuclear material, nuclear facilities

- Legislative and regulatory framework
- Authorization
- Inspections and enforcement

Legislative and regulatory framework

Jointly with other CAs

- **Federal Law № 170-FZ «On the use of atomic energy»**
- **“Regulations on Physical Protection of Nuclear Materials, Nuclear Facilities and Nuclear Material Storage Facilities”, approved by Decree of the Government of the Russian Federation No. 456 dated July 19, 2007**

Own Series of normative and legal acts

- **Federal Rules and Regulations on the use of nuclear energy (NP-083-15, NP-085-10, NP-034-15, NP-073-11)**

Federal Rules and Regulations on the use of nuclear energy

Requirements for physical protection systems of nuclear material, nuclear facilities and nuclear material storage facilities (NP-083-15)	Requirements for physical protection of ships with nuclear reactors and vessels - nuclear material transporters (NP-085-10)

Federal Law № 170-FZ «On the use of atomic energy»:
Federal rules and regulation should take into account recommendations given by the international organizations in the field of the use of atomic energy, whereto the Russian Federation is a part

Which of recommendations (documents)

How to implement

?

International legal instruments for physical protection of nuclear material and nuclear facilities

Binding

- CPPNM
- Amendment to the CPPNM

Non-binding

- IAEA Nuclear Security Series

Amendment to the CPPNM

Fundamental Principles (A, B, C, D, E, F, L)

…

Categorization of NM (from CPPNM)

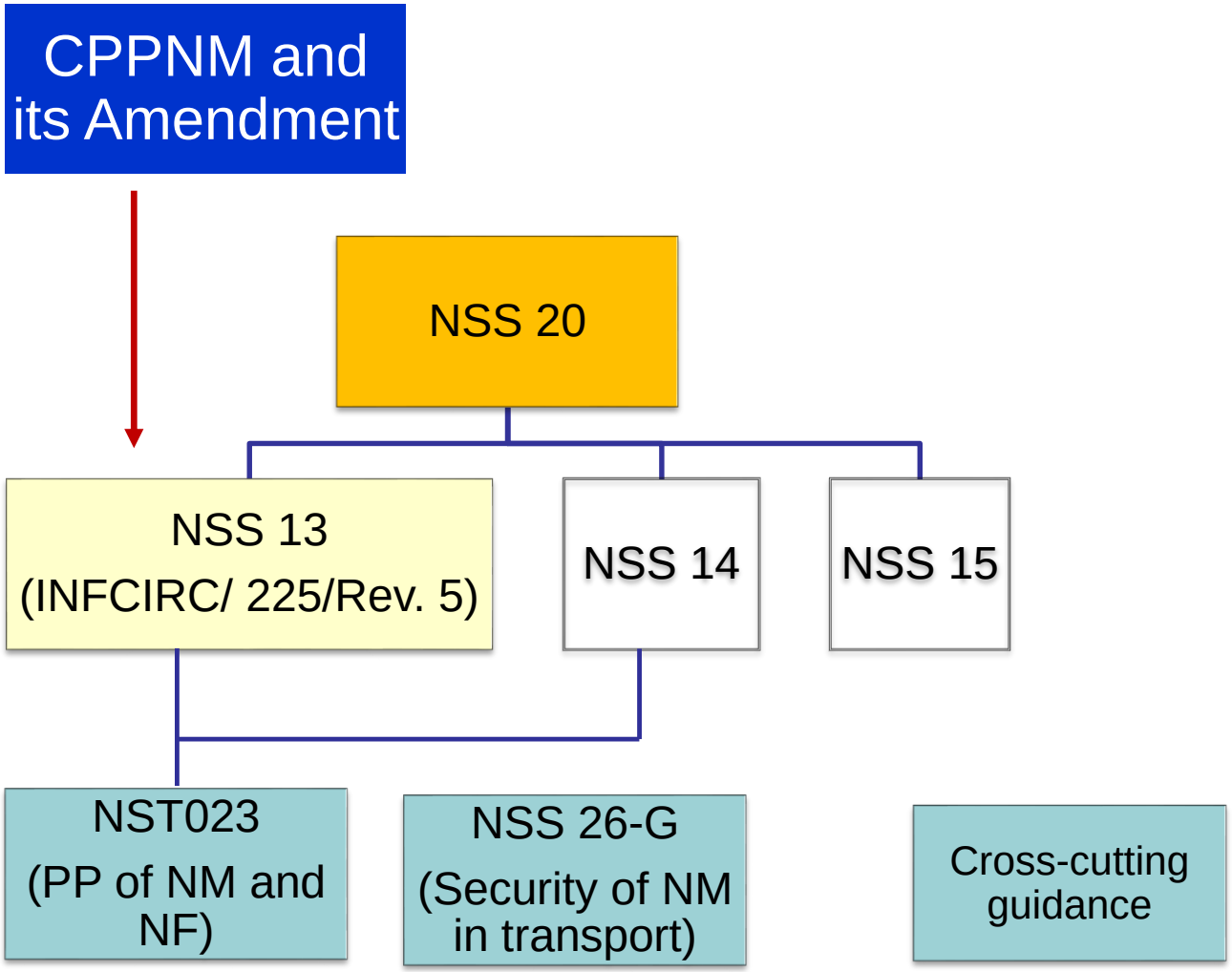
Fundamental Principles (G, H, I, J, K)

Requirements to the physical protection of NM and NF

…

How to implement? ⇒ **INFCIRC/225**

IAEA recommendations on physical protection of Nuclear material and facilities



Implementation of IAEA recommendations. Possible options.

flexibility

Establish by the national normative act that the IAEA documents with recommendations are obligatory

Add references to the paragraphs of IAEA publications in national normative legal acts

Analyze recommendations, adapt them to national legislation, add necessary changes in normative and legal acts.

Implementation of IAEA recommendations. Development or review of Federal Rules and Regulations

- Research work by TSO (including analyze of IAEA NSS Series publications)
- Results of oversight, enforcement
- Feedback from operators
- New types of nuclear facilities or activities

Rostechnadzor develops or reviews FRR:

**several drafts,
feedback from potential users,
consultancy meetings,
official publication,
registration of approved order by the Ministry of Justice**

Implementation of IAEA recommendations. In practice (1)

Basic statements for physical protection at the nuclear sites

NSS 13 (INFCIRC/225/Rev.5)	Regulations on Physical Protection of NM, NF and NM Storage Facilities
Categorization of NM *(categories I - III)*	**Categorization of NM** *(categories I - IV)*
Consequences of sabotage *(Unacceptable radiological consequences)*	**Categories of consequences of unauthorized actions** *(categories I-III, based on scale of consequences of unauthorized actions)*

Implementation of IAEA recommendations. In practice (2)

Basic statements for physical protection at the nuclear sites

NSS 13 (INFCIRC/225/Rev.5)	Regulations on Physical Protection of NM, NF and NM Storage Facilities, NP-083-15

Graded Approach, Defence in Depth

Three protected layers on the way to target:

- **Limited access area,**
- **Protected area and**
- **Inner area (NM Cat. I) or Vital area (NM or devices, equipment with URC)**

Three protected layers on the way to target:

- **Protected area,**
- **Inner area**
- **Vital area**

Applied complex approach to determine of targets location

Cat. of NM +
Cat. of consequences of unauthorized actions +
Cat. of sensitive information

Implementation of IAEA recommendations. In practice (3)

Basic statements for physical protection at the nuclear sites

NSS 13 (INFCIRC/225/Rev.5)	Regulations on Physical Protection of NM, NF and NM Storage Facilities, NP-083-15
DBT	**Model adversaries for a nuclear site**
Assessment of physical protection measures	**Vulnerability analyze of targets at a nuclear site, Assessment of PPS effectiveness at a nuclear site**
Nuclear Security Plan (incl. contingency plan)	**A set of documents developed at a nuclear site (21 documents, incl.** Annual operator's report about state of physical protection**)**

Conclusion

IAEA publications could be taken into account as an example of international recommendations developed in consensus

The State should define the most convenient way of implementation of IAEA recommendations

Rostrechnadzor applies a complex approach included analyze of IAEA recommendations and their adaptation in accordance with national legislative and regulatory framework on physical protection of nuclear material and nuclear facilities

Thank you for attention!

Questions?