

Task 4 INPRO Action Plan “Legal and Institutional Issues of Nuclear Energy Supply by TNIs”: Scope, Contents, Definitions

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Definitions

Transportable Nuclear Installation

The term “nuclear installation” has a number of definitions under different international instruments:

Convention on Nuclear Safety: limited to
“land-based civil nuclear power installation”

Paris and Vienna Liability Conventions: exclude
any reactor with which means of sea or air
transport is equipped

INPRO domestic team:

Transportable Nuclear Installations

- “could be assembled and pre-tested at the factory”
- “does not operate during the transportation”
- no special requirements for the user's industrial and nuclear infrastructure
- turnkey contract basis
- can be returned to the manufacturer for maintenance or in the case of an accident

Russian home team: Transportable Nuclear Installations

- **Serial production**
- Factory fabrication and pre-testing
- Entirely removed at the end of the lifetime
- Minimal requirements for regional infrastructure

Subject of the study

- Legal issues
- Institutional issues
- Infrastructure issues

Fundamental approaches

Two main extreme approaches

- Incorporation into existing institutional framework (almost without any changes)
- Creation of a specific institutional framework (“all over again”)

**Some reasonable compromise
has to be found!**

Scenarios

Domestic INPRO team: Reference Life Cycle Scenarios

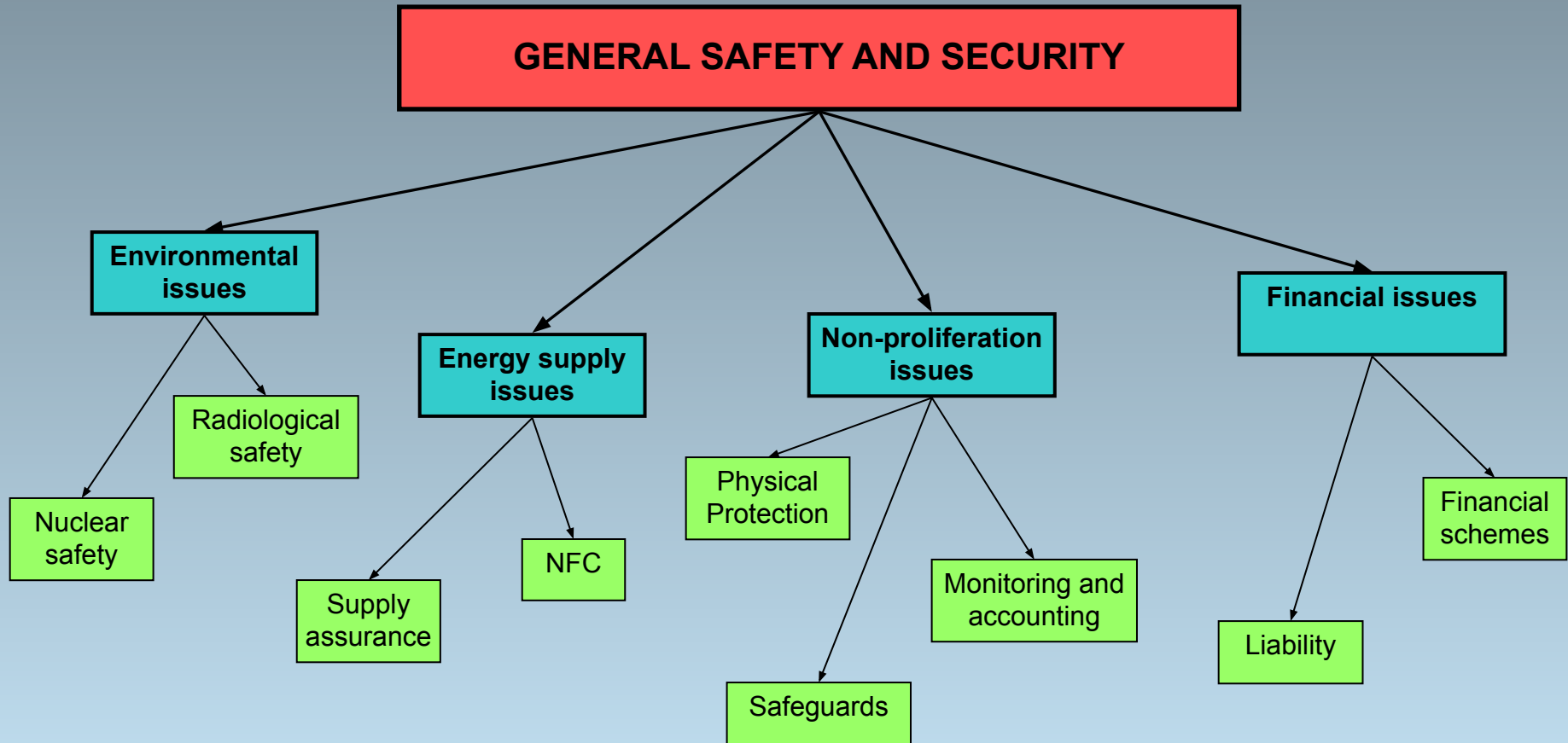
- “Domestic” scenario
- “Export” scenario
 - Supplier is operator
 - Receiving entity is operator
- “Outsourcing” scenario

Russian home team: Reference Life Cycle Scenarios

- “Domestic” scenario
- “International” scenario (“Supplier is responsible for everything”)

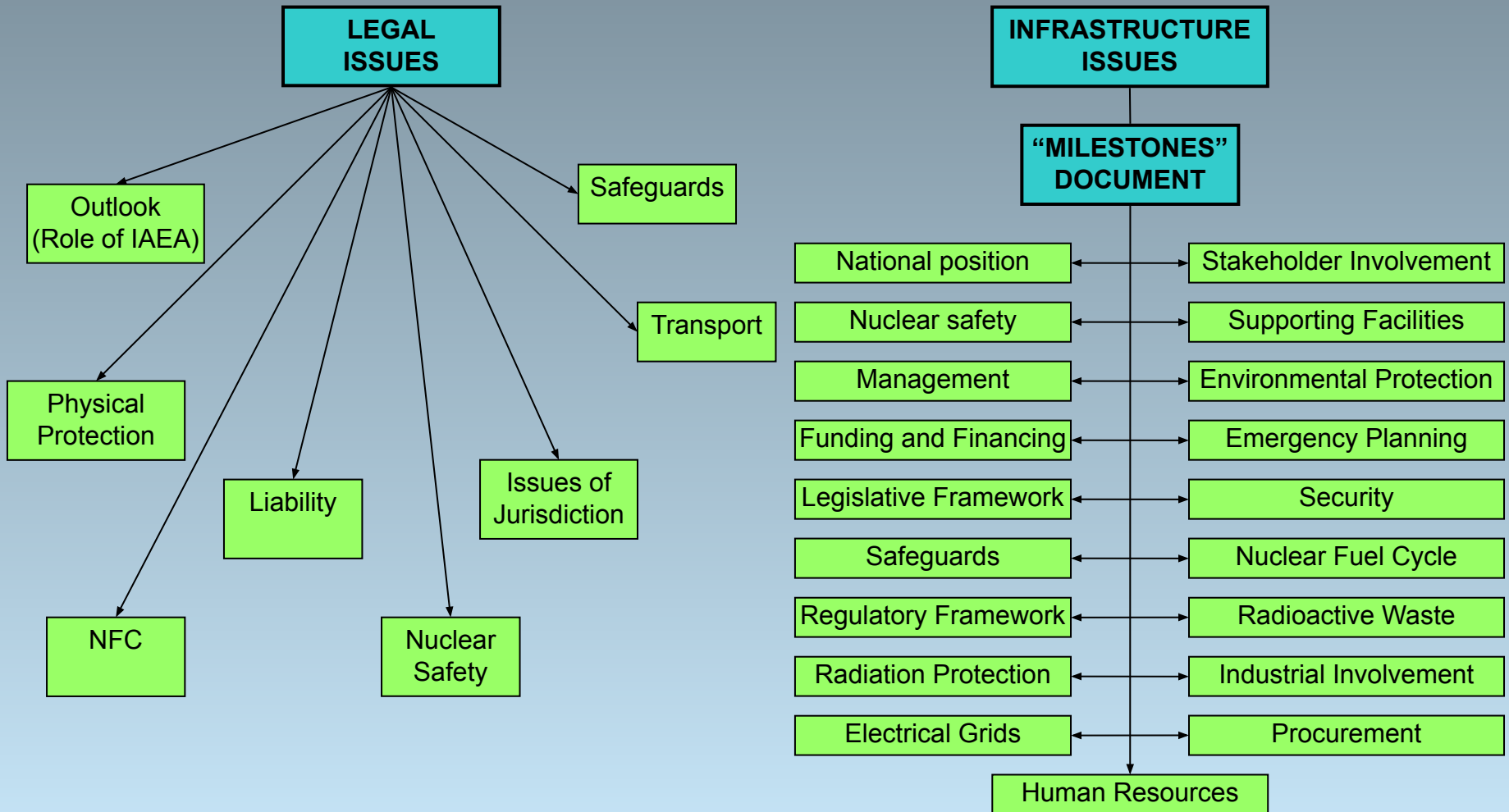
Issues structure

Issues Hierarchy (*Russian home team*)



Issues Hierarchy

(INPRO Domestic team)



Issues studied

Comparison of the issues considered

	ISSUES	DOMESTIC INPRO TEAM	RUSSIAN HOME TEAM
1	Nuclear Safety	+	+
2	Nuclear Fuel Cycle	+	in progress
3	Physical Protection of Nuclear Material	+	+
4	Legal framework for Transport of TNIs	+	+
5	Outlook (Role of the IAEA)	+	-
6	Liability for Nuclear Damage	+	+
7	Safeguards/Non-proliferation	+	+
8	Infrastructure issues/	approach difference	

Additional issues of the study

(Russian home team)

	ISSUES	STATUS
1	General safety and security	+
2	Monitoring, accounting and control of Nuclear Materials	+
3	Economic schemes for TNI project implementation	+
4	Regulatory framework for TNI's serial production	in progress
5	Licensing	in progress
6	Standardization, certification and test centers	in progress
7	Emergency planning	
8	Human resources	
9	Rules for announcing and providing services by TNIs	
10	Legal support of international TNI project	in progress
11	Legal support of Russian national TNI project	in progress

Liability for nuclear damage

(Domestic INPRO team)

Two main assumptions:

- 1) Liability system for TNIs will be based on the existing international instruments
- 2) TNIs is considered with respect to Vienna Convention (VC)

As a result the list of the issues that need further elaboration is presented.

Liability for nuclear damage

(Russian home team)

What has been done:

- Review of international legal instruments related and their applicability to TNIs
- Options for the liability transitions during the life cycle of the TNI
- An expert estimation of the nuclear insurance contribution to the electricity cost

Safeguards

Russian home team: considered not only safeguards but all the elements of non-proliferation regime

Both teams considered various specific scenarios of TNI deployment

Safeguards

The main conclusions of the teams are **practically the same**. And they are as follows:

- There is nothing that differentiates TNIs from conventional stationary nuclear installations with regards to safeguards.
- In respect of non-proliferation TNIs are sufficiently covered by the existing institutional arrangements and do not require development of new rules and norms.

Nuclear Safety

(Domestic INPRO team)

The section contains the detailed review of the legal instruments applicable:

- Binding: Conventions related to Nuclear Safety
- Non-binding: Safety Principals, Requirements, Standards

Nuclear Safety

(Russian home team)

The section contains the analysis of how the specific features of TNIs and their life cycle influence the nuclear safety requirements for them.

As a result the list of the regulations recommended to develop is presented.

Transport

(Domestic INPRO team)

The section contains a review of the legal instruments related to the transport of TNIs:

- Binding:
 - Law of the Sea
 - SUA Treaties and 2005 Protocols
 - Other binding modal instruments
- Non-binding:
 - Safety norms
 - Security norms

Transport

(Russian home team)

What has been done:

- Review of the existing legal framework related to nuclear equipment or material transport

Output:

- Recommendations for the future development of the legal framework for TNI transport

Physical Protection

(Domestic INPRO team)

Physical Protection section is presented as a part of Nuclear Safety section. It considers legal instruments related to the issue.

Binding: CPPNM and 2005 Amendment, UN Security Council Resolutions UNSCR 1540 etc.

Non-binding: INFCIRC/225 (Rev.4)

Physical Protection

(Russian home team)

Identified:

- Specific features of TNIs that are substantial with respect to physical protection
- Specific threats that must be taken into account during the particular TNI project phase:
 - Design phase
 - Transportation to the operation site
 - Operation phase

Thank you