



Establishing a Safety Infrastructure for a National Nuclear Power Programme

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Safety Infrastructure Guide DS424



Increasing number of countries considering the introduction of nuclear power.



Need to comply with the IAEA Safety Standards for ensuring safety and enhancing international confidence.



**Development of the
Safety Infrastructure Guide DS424**

**Roadmap to apply the
entire set of IAEA Safety Standards in
countries embarking on nuclear power**



Position of the IAEA

Extract from DG's 2008 General Conference speech:

“Every country has the **right to introduce nuclear power, as well as the **responsibility** to do it right.”**

IAEA Safety Standards
for protecting people and the environment

Principle 1: Responsibility for safety

Fundamental
Safety Principles

Jointly sponsored by
Euratom IAEA ILO IMO OECD/NEA FAO UNEP WHO



Principle 2: Role of government

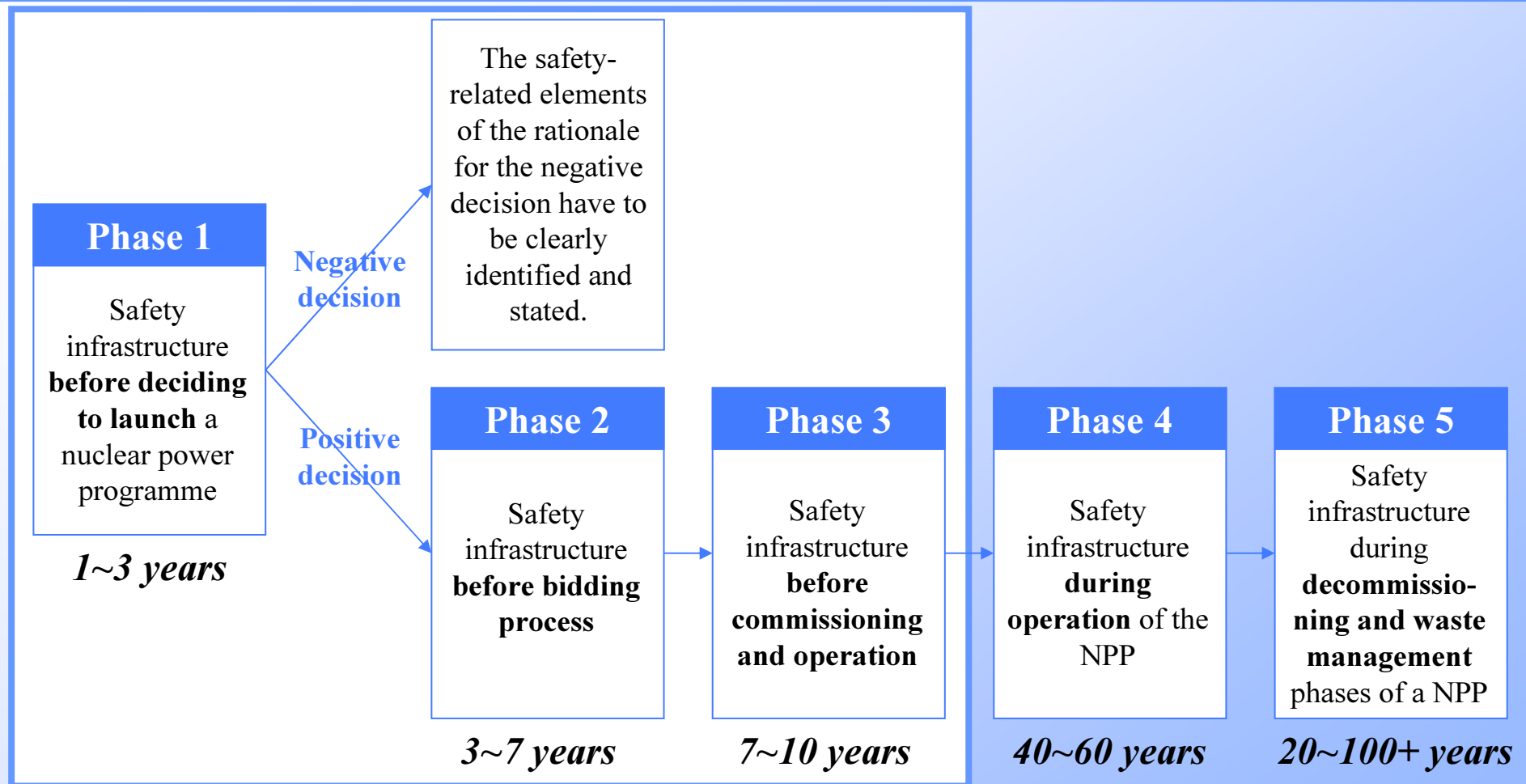
Safety Fundamentals
No. SF-1

Principle 3: Leadership for safety





Main phases of the safety infrastructure development in the lifetime of a nuclear power plant (based on INSAG-22)



▶ **Safety Infrastructure Guide (DS424)** constitutes a “Road-map” to apply the entire set of **IAEA safety principles and requirements** progressively during Phases 1, 2 and 3 of the implementation of a nuclear power programme.

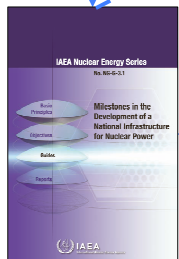
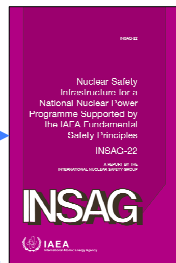


The central role of the Safety Infrastructure Guide DS424

IAEA Nuclear Power Support Group's BROCHURE



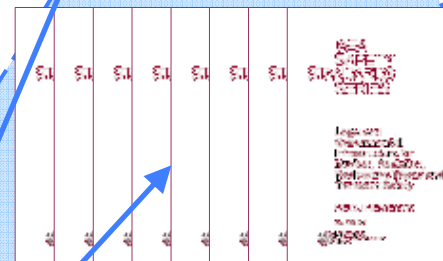
International Nuclear Safety Group's REPORT-22



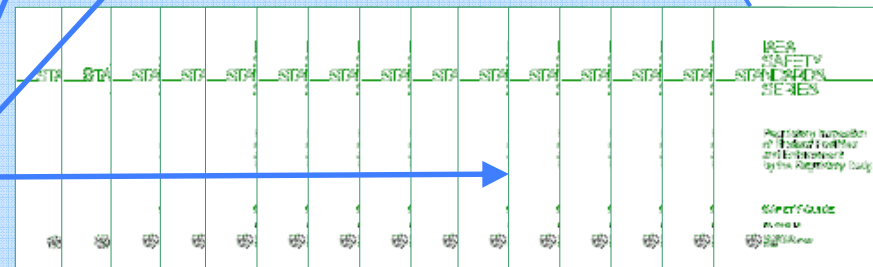
"Milestones" document IAEA NG-G-3.1



FUNDAMENTALS



REQUIREMENTS



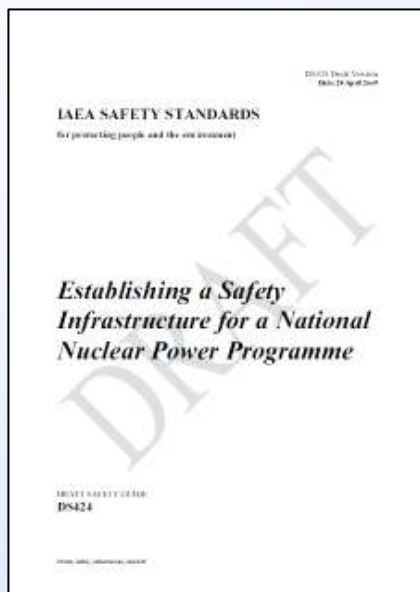
GUIDES

IAEA SAFETY STANDARDS



The main 3 roles of DS424

1. Road-map to gradually apply the IAEA Safety Standards.





The Structure of the Safety Infrastructure Guide DS424

The *Safety Infrastructure Guide (DS424)* is structured in accordance with the IAEA Safety Requirements.

Primarily used to help in enhancing newcomers' *Safety Infrastructure and Capacity Building*.

Providing and facilitating *international cooperation and coordination* for building nuclear safety infrastructure.

The 20 chapters of the SAFETY INFRASTRUCTURE Guide DS424

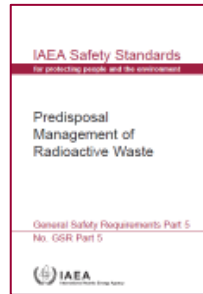
- 1 - National policy and strategy
- 2 - Global nuclear safety régime
- 3 - Legal framework
- 4 - Regulatory framework
- 5 - Transparency and openness
- 6 - Funding and financing
- 7 - External support organizations and contractors
- 8 - Leadership and management for safety
- 9 - Human resources development
- 10 - Research for safety and regulatory purposes
- 11 - Radiation protection
- 12 - Safety assessment
- 13 - Safety of radioactive waste, spent fuel management and decommissioning
- 14 - Emergency preparedness and response
- 15 - Operating organization
- 16 - Site survey, site selection and evaluation
- 17 - Design safety
- 18 - Preparation for commissioning
- 19 - Transport safety
- 20 - Interfaces with nuclear security



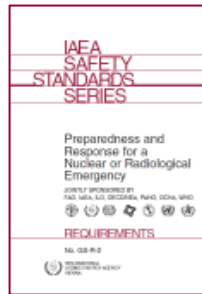
GS-R-1



BSS-115



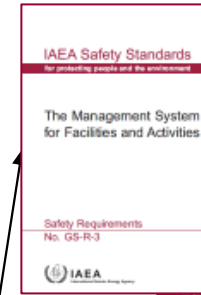
GSR Part 5



GS-R-2



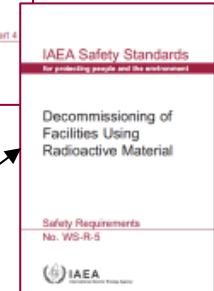
NS-R-3



GS-R-3



GSR Part 4



WS-R-5



NS-R-2



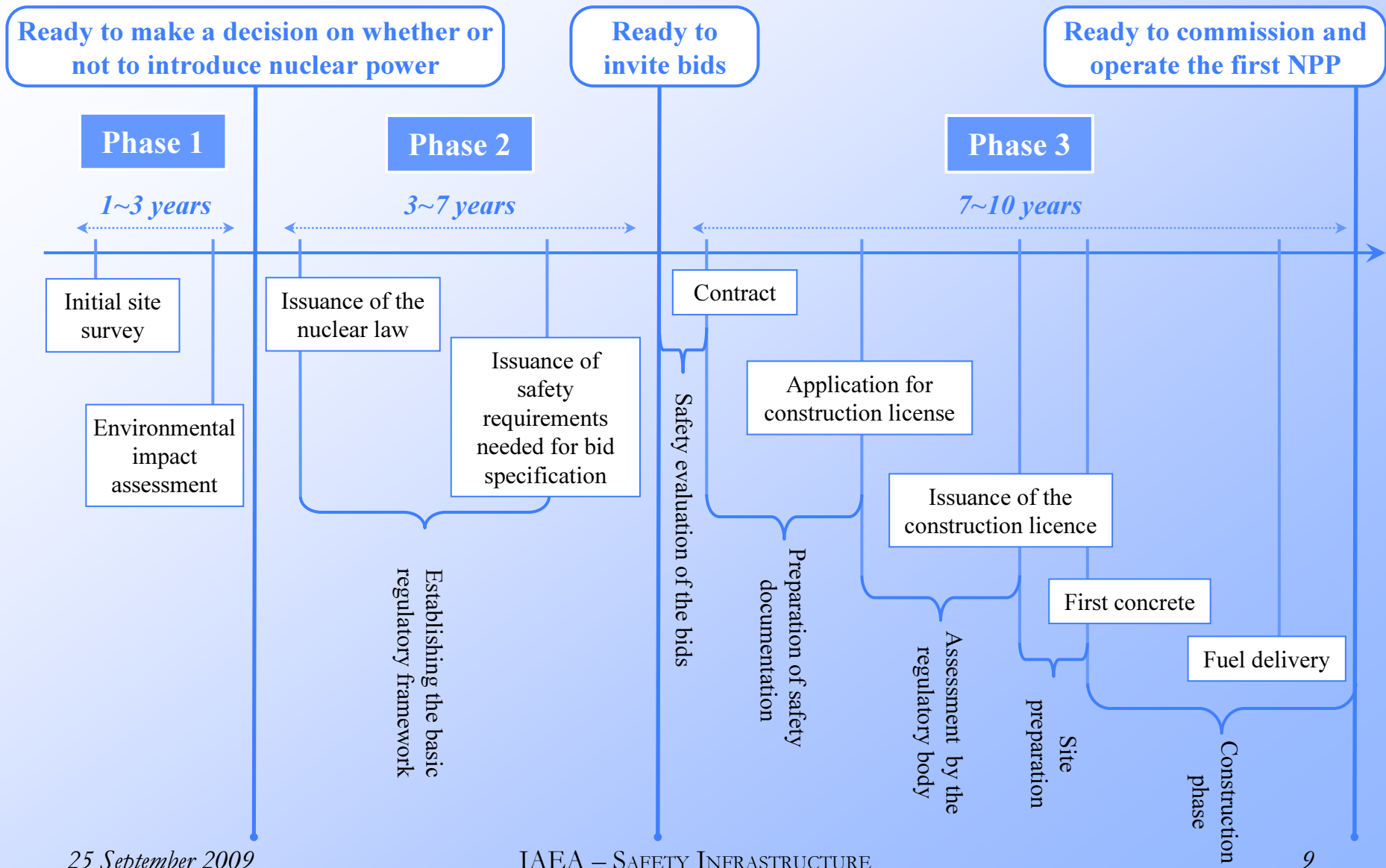
NS-R-1



TS-R-1

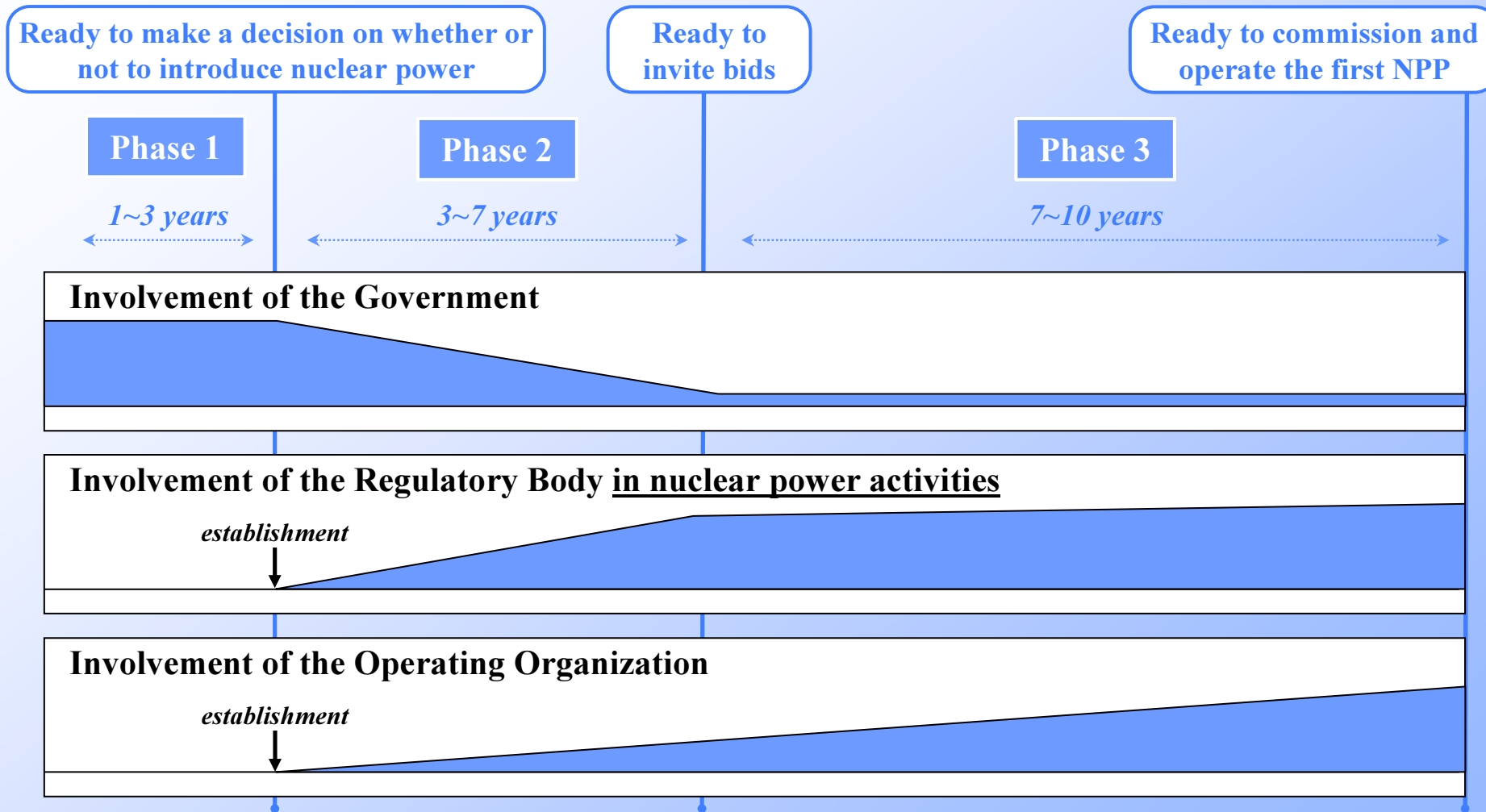


Some steps important to safety described in the Safety Infrastructure Guide





Involvement of the main entities



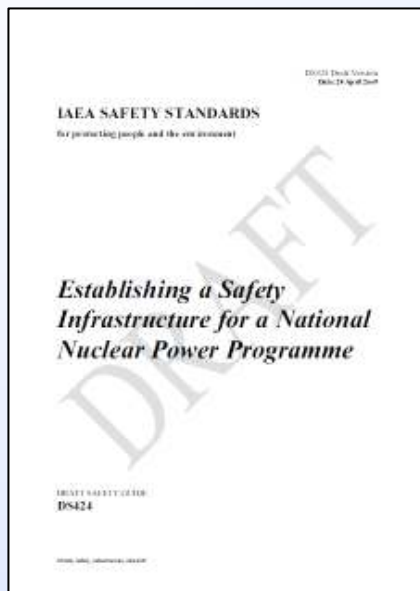


DS424 Interfaces

- DS424 uses the concept of “**3 Phases**” defined in the NPSG’s publication and utilized in the Milestones document.
- DS424 limits its scope to **safety**.
- The content of DS424 is drawn from the **IAEA Safety Standards** collection and the INSAG-22 inputs.
- DS424 addresses **safety issues in a detailed manner**.
- DS424 covers **additional activities** that have not been addressed in the “Milestones” (e.g. design safety, regulatory approaches, safety assessment, safe transport, preparation for commissioning, etc.).
- DS424 is **structured in accordance with the Safety Standards**.
- DS424 identifies **responsibilities of the main actors**.
- DS424 includes **200 Actions** to implement the IAEA Safety Standards.
- DS424 is going through the CSS endorsement process so as to get **formal international consensus** on the issues it addresses.



The main 3 roles of DS424



1. Road-map to gradually apply the IAEA Safety Standards.

2. Terms of reference to tailor the Safety Review Services.



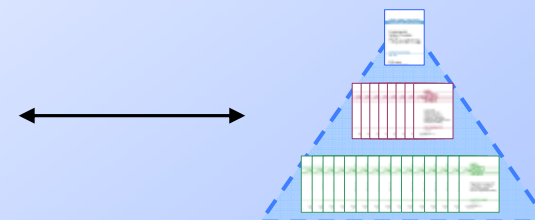
Importance of coordination

IAEA safety review missions based on internationally agreed safety standards are well established and are the best tools to build up confidence on the capacity of a country to develop safe nuclear energy.



Coordinating Safety reviews missions

Safety peer reviews against the Safety Standards



Siting Mission

IRRS Mission

Safety Missions
OSART, ENSARS, IPSART, IRRS...

Phase 1

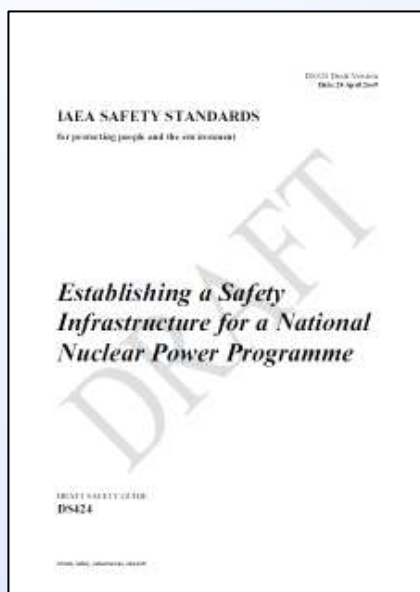
Phase 2

Phase 3

Operation



The main 3 roles of DS424



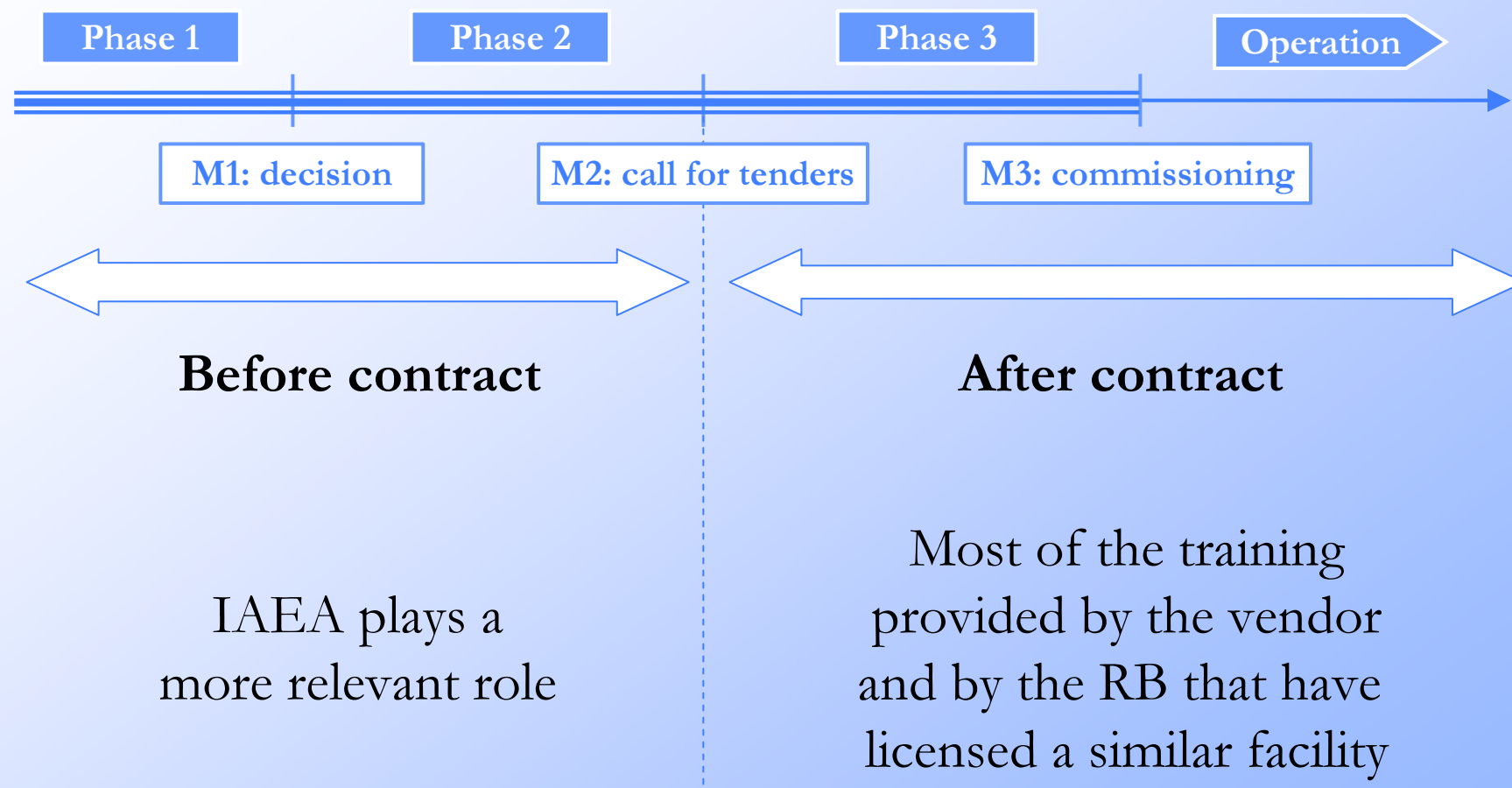
1. Road-map to gradually apply the IAEA Safety Standards.

2. Terms of reference to tailor the Safety Review Services.

3. Training framework for embarking countries.



Phasing the Training Programme



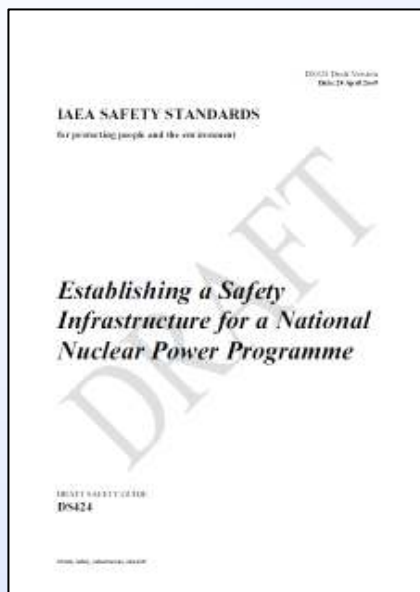


Framework for E&T in Nuclear Safety

- Requires the identification and **analysis** of what an organization is going to **need** in terms of competencies, number of staff and background
- Provides a framework for the implementation of E&T activities for embarking countries **based on previous experience and materials available in NS Department**
- **Consistent** with the actions defined in DS-424
- Covers **3 phases**



Conclusion: the main 3 roles of the Safety Infrastructure Guide DS424



1. Road-map to gradually apply the IAEA Safety Standards.

2. Terms of reference to tailor the Safety Review Services.

3. Training framework for embarking countries.



The Safety Infrastructure Guide DS424

Useful tool to provide consistent coordination for all safety infrastructure areas among regulators of suppliers, recipients and international organizations. Consideration is also given to other governmental organizations and the industry.

Thank you for your attention.



IAEA

International Atomic Energy Agency

Atoms For Peace

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