International Atomic Energy Agency

Technical Meeting on
Milestones for nuclear power infrastructure development

Radiation Protection

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Content

- **Background.**
- **Radiation Protection in the three phases NG-G-3.1**
- **Agency Strategy in radiation protection:** *Model Project on upgrading radiation protection infrastructure.*
- **Conclusion.**

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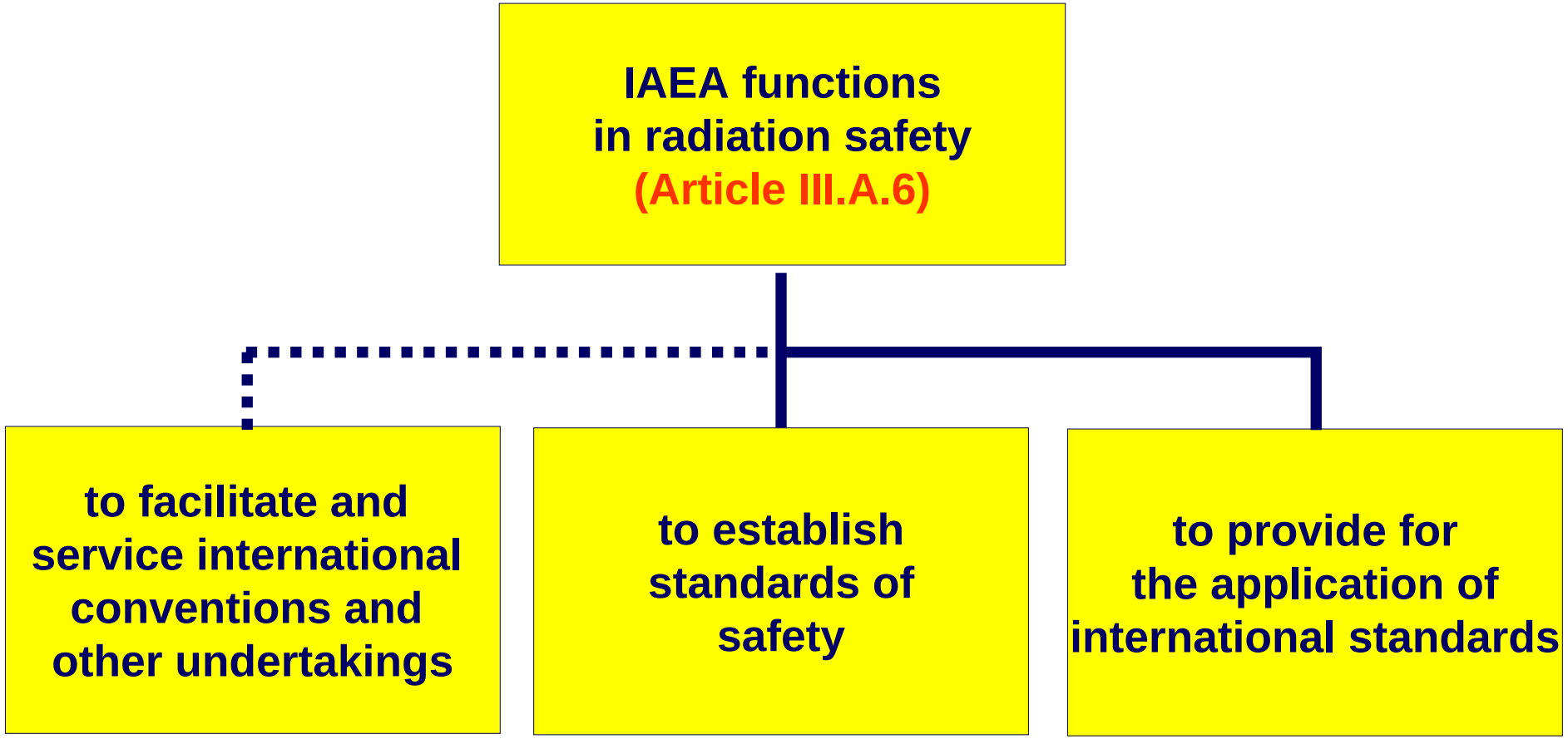
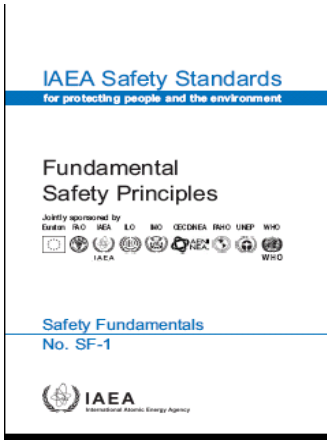
IAEA Safety Functions

(Radiation, Transport and Waste Safety)



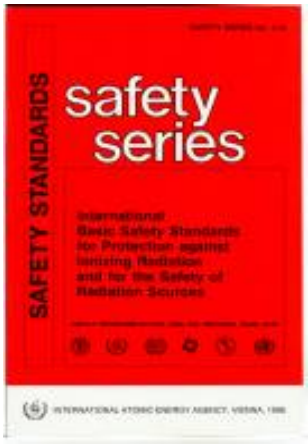
Hierarchy of Safety Standards



underlying principles - aimed at decision makers and regulatory bodies

Fundamentals

Requirements

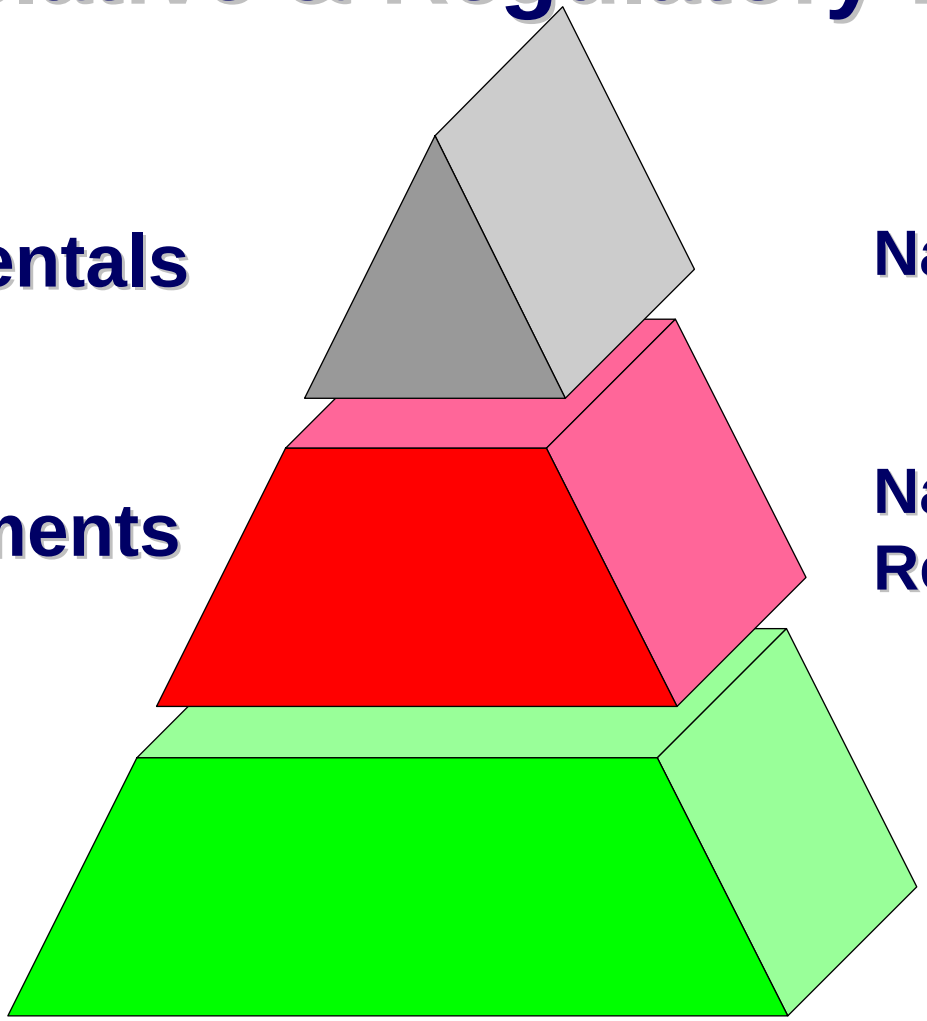


specify obligations and responsibilities ("shall" statements)

Guides

recommendations to support requirements ("should" statements)

Safety Standards & National Legislative & Regulatory Framework



Fundamentals

Requirements

Guides

National Legislation

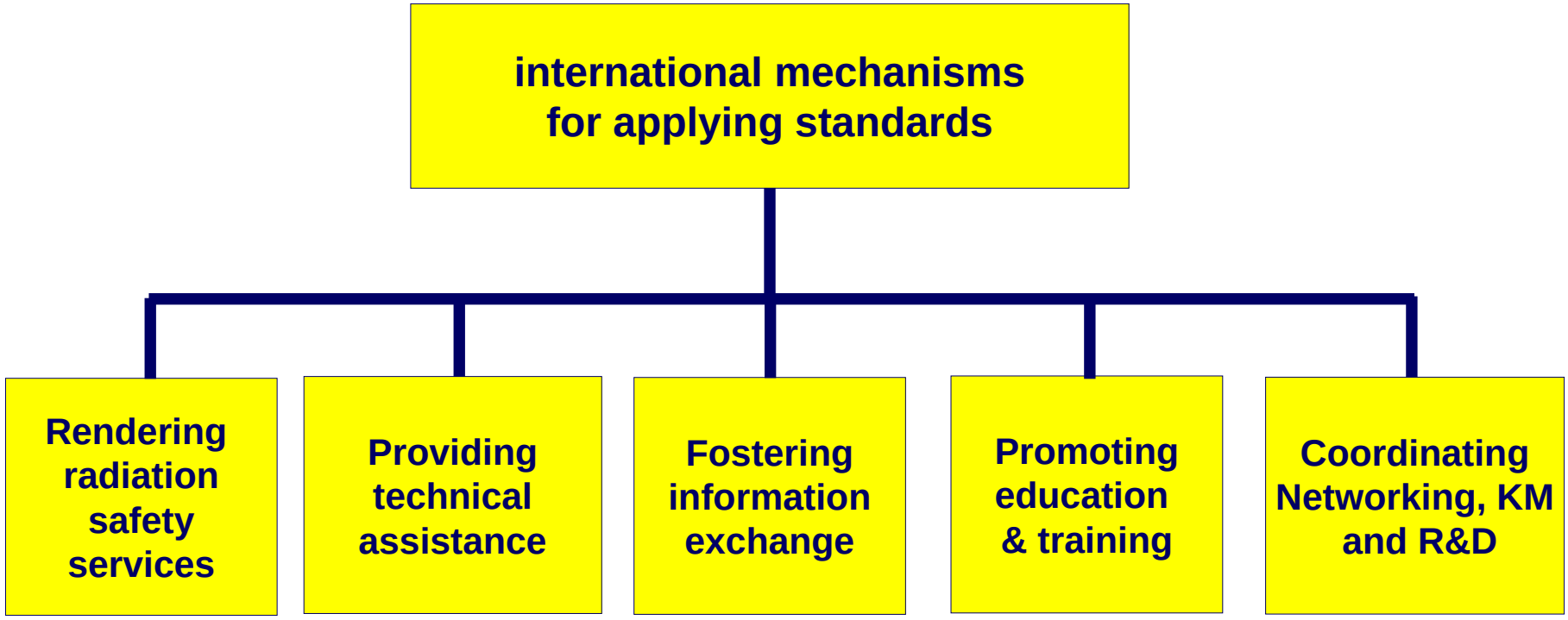
National Safety Regulations

National Regulatory Guides

Character of Safety Standards

- **Not legally binding on Member States, but may be adopted by them**
- **Binding on IAEA's own activities**
- **Binding on States in relation to operations & projects assisted by the IAEA**

Provisions for the application of standards



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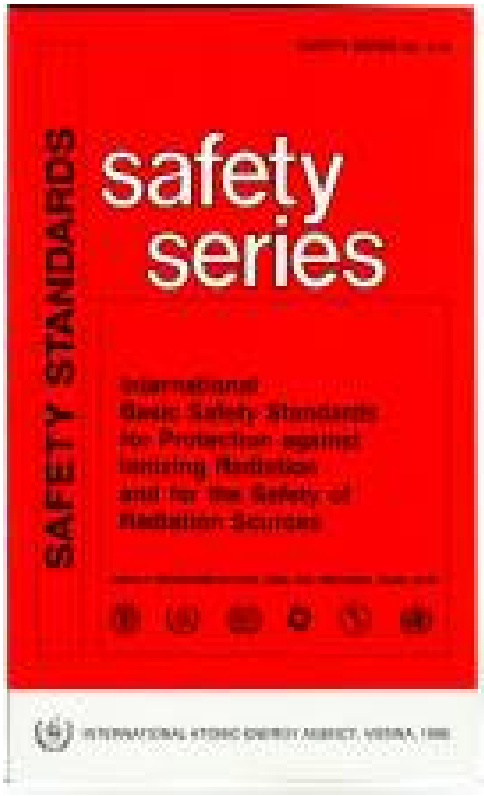
Radiation protection: Milestone 1 — Ready to make a knowledgeable commitment to a nuclear programme

An understanding of the additional hazards presented by NPPs over and above those posed by medical, industrial and research applications of ionizing radiation.



Radiation protection: Milestone 2 — Ready to invite bids for the first nuclear power plant

- Reviewing existing laws governing radiation protection and ensuring that legislation needed for enhancement has been promulgated;
- Development of specific regulations by the regulatory body;
- Planning by the owner/operator for programmes for worker, public and environmental monitoring and protection;
- Identification of specific challenges for environmental monitoring at the chosen site, and development of plans to resolve them;
- Characterization and measurement of background sources of radiation at the site.

Radiation protection: Milestone 3 — Ready to commission and operate the first NPP

- Radiation monitoring equipment in place and operational both on and off-site;
- Fully implemented site environmental monitoring programme;
- Functioning off-site radiation monitoring programmes;
- Radiation dosimetry requirements in place for all workers;
- Development of programmes to optimize radiation exposure during plant operation and maintenance; &
- Waste management capabilities in place.

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Model Project on upgrading radiation protection infrastructure

Vision

- ***Effective & sustainable radiation protection infrastructure in Member Sates.***

Objectives (1994):

- **To assist Member States to comply with the International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources & related standards.**

Requirements in five milestones

Scope:Milestones/Thematic Safety Areas (TSAs)

THEMATIC SAFETY AREA 1: NATIONAL REGULATORY INFRASTRUCTURE FOR THE CONTROL OF RADIATION SOURCES

THEMATIC SAFETY AREA 2: PROTECTION OF WORKERS OCCUPATIONALLY EXPOSED TO IONIZING RADIATION

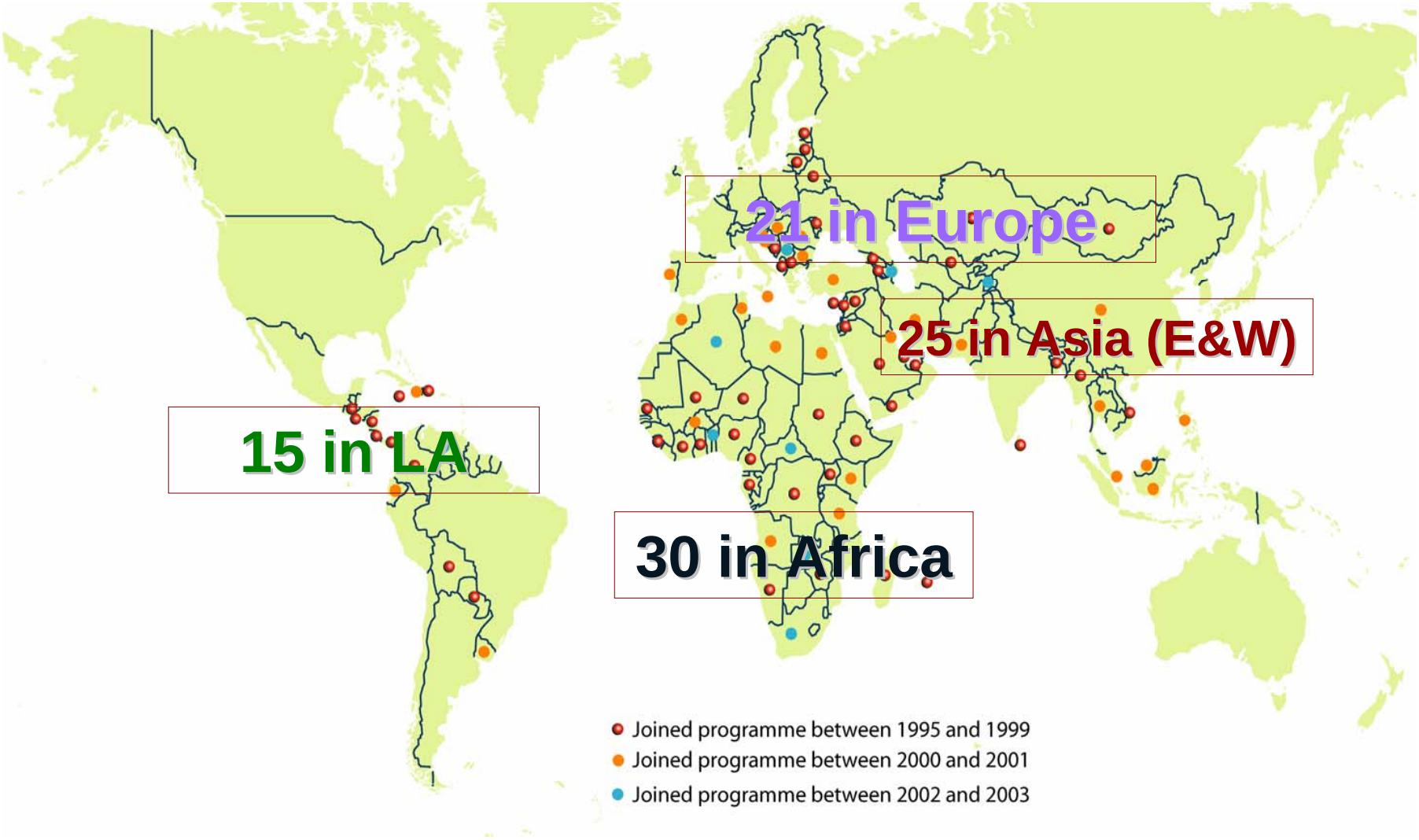
THEMATIC SAFETY AREA 3: MEDICAL EXPOSURE CONTROL

THEMATIC SAFETY AREA 4: PUBLIC RADIATION EXPOSURE CONTROL

THEMATIC SAFETY AREA 5: PREPAREDNESS & RESPONSE TO RADIATION EMERGENCIES

Member States Participating In The Model Project

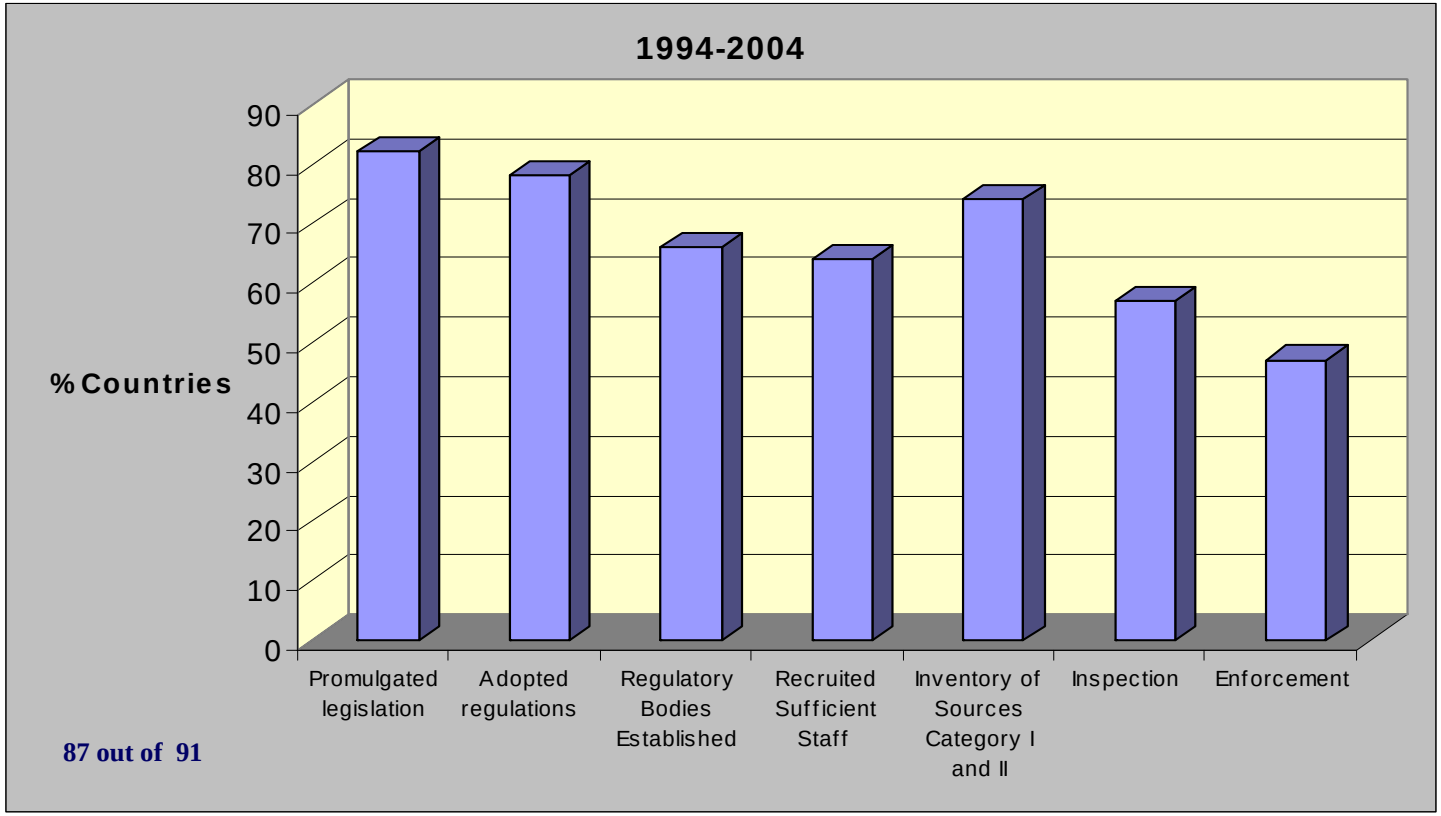
91 participating countries in 2004



Capacity building: Training, coordination and expertise (1994-2004)

Region	Number of participants in training courses	Number of fellowships	Number scientific Visits	Number of assignments by IAEA Staff	Number of assignments by international experts and lecturers	Number of assignments by national consultants	Number of participants in meetings and workshops
Interregional		114	38	253	165	1	171
Africa	887	146	41	122	166	44	206
East Asia & Pacific	988	183	49	113	175	25	118
Europe	1319	60	111	161	308	37	292
Latin America	570	81	8	98	349	46	137
West Asia	955	287	57	114	238	21	169
TOTAL	**4719**	**871**	**304**	**861**	**1401**	**174**	**1093**

Progress Achieved for Milestone 1:
Regulatory infrastructure



About 60% had achieved the regulatory level of compliance presumed in the Preamble to the BSS

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Conclusion

- ***Vision and proactive strategy for effective & sustainable radiation protection infrastructure;***
- ***Substantial progress has been made through the Model Project & its follow up projects;***

Conclusion (cont'd)

- ***Commitment at the national levels for continuous improvement and sustainability; and***
- ***Development and strengthening of regional expertise, networking and sharing of knowledge and experience.***

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