

ESTABLISHING SUSTAINABLE INFRASTRUCTURES FOR EDUCATION AND TRAINING IN RADIATION, TRANSPORT AND WASTE SAFETY: IAEA'S APPROACH TO SUPPORT MEMBER STATES

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International Atomic Energy Agency

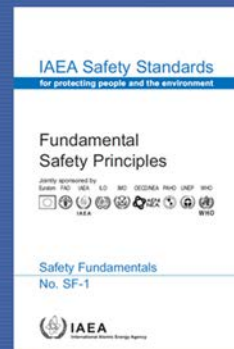
IAEA Safety functions

IAEA Functions in Radiation & Waste Safety (Article III.A.6)

**To establish
standards of
safety**

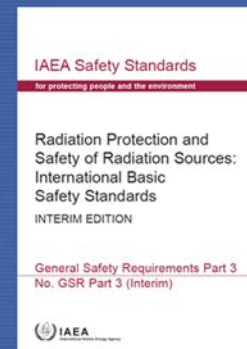
Safety Fundamentals

Principles



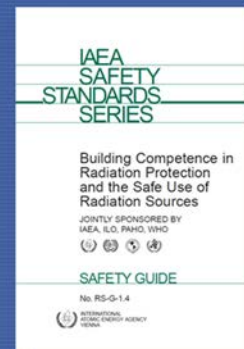
Safety Requirements

"Shall"

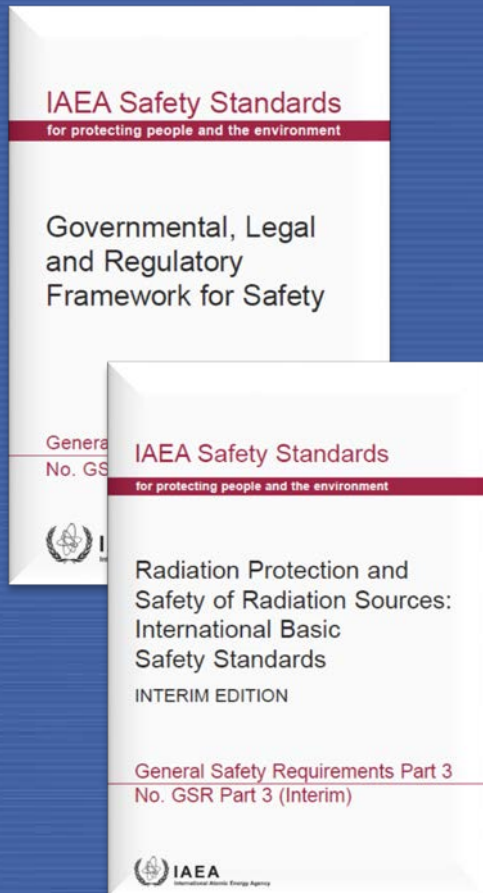


Safety Guides

"Should"



IAEA REQUIREMENTS FOR EDUCATION AND TRAINING IN RADIATION PROTECTION



RESPONSIBILITIES OF GOVERNMENTS

- Establish a national policy and strategy for safety
- Make provisions for education and training services
- Establish requirements for:
 - education, training, qualification and competence
 - formal recognition of qualified experts



IAEA REQUIREMENTS FOR EDUCATION AND TRAINING IN RADIATION PROTECTION

RESPONSIBILITIES OF THE REGULATORY BODY

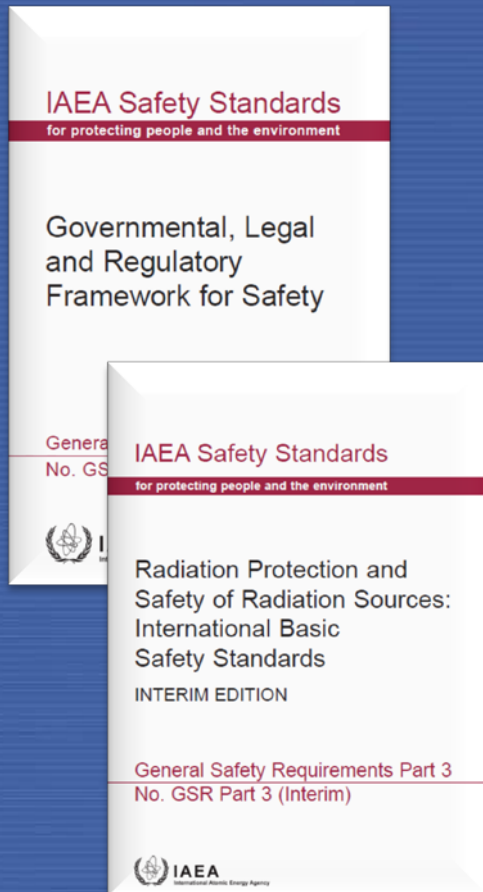
■ For its staff:

- Ensure regulatory staff are qualified and competent

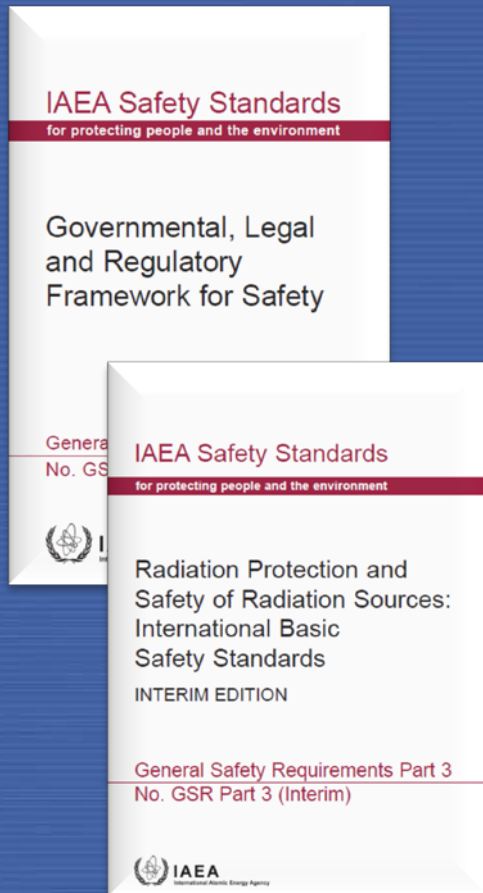


■ In relation to registrants, licensees and employers

- Ensure that they apply the requirements for education, training, qualification and competence
- Verify the competence of individuals
- Require that medical/health professionals are specialized and meet the requirements for education, training and competence in radiation protection



IAEA REQUIREMENTS RELATED TO EDUCATION AND TRAINING IN RADIATION PROTECTION



RESPONSIBILITIES OF AUTHORIZED PARTIES (e.g. Licensees)

Ensure that persons have appropriate education, training, qualification, information and instruction

- Especially in relation to :
 - controlled/supervised areas
 - respiratory protective equipment
 - health risks from occupational exposure
- Provide periodic retraining



IAEA REQUIREMENTS RELATED TO EDUCATION AND TRAINING IN RADIATION PROTECTION

IAEA Safety Standards
for protecting people and the environment

Governmental, Legal
and Regulatory
Framework for Safety

General Safety Requirements
No. GSR Part 3 (Interim)



IAEA Safety Standards
for protecting people and the environment

Radiation Protection and
Safety of Radiation Sources:
International Basic
Safety Standards
INTERIM EDITION

General Safety Requirements Part 3
No. GSR Part 3 (Interim)



RESPONSIBILITIES OF WORKERS

- Accept such information, instruction and training in protection and safety as will enable them to conduct their work in accordance with the requirements of the Standards

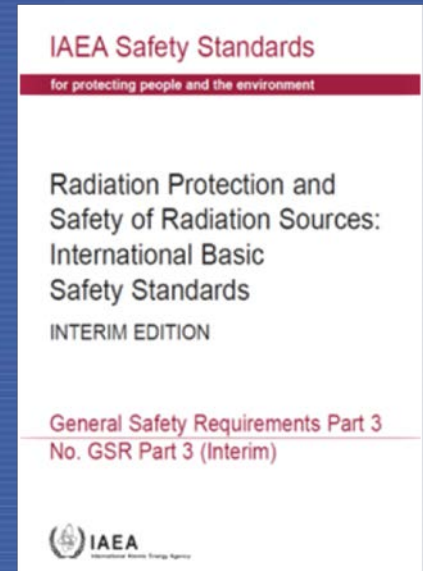


IAEA Radiation Safety Standards: Status

- IAEA Safety Standards are not legally binding on Member States but may be adopted by them, at their own discretion

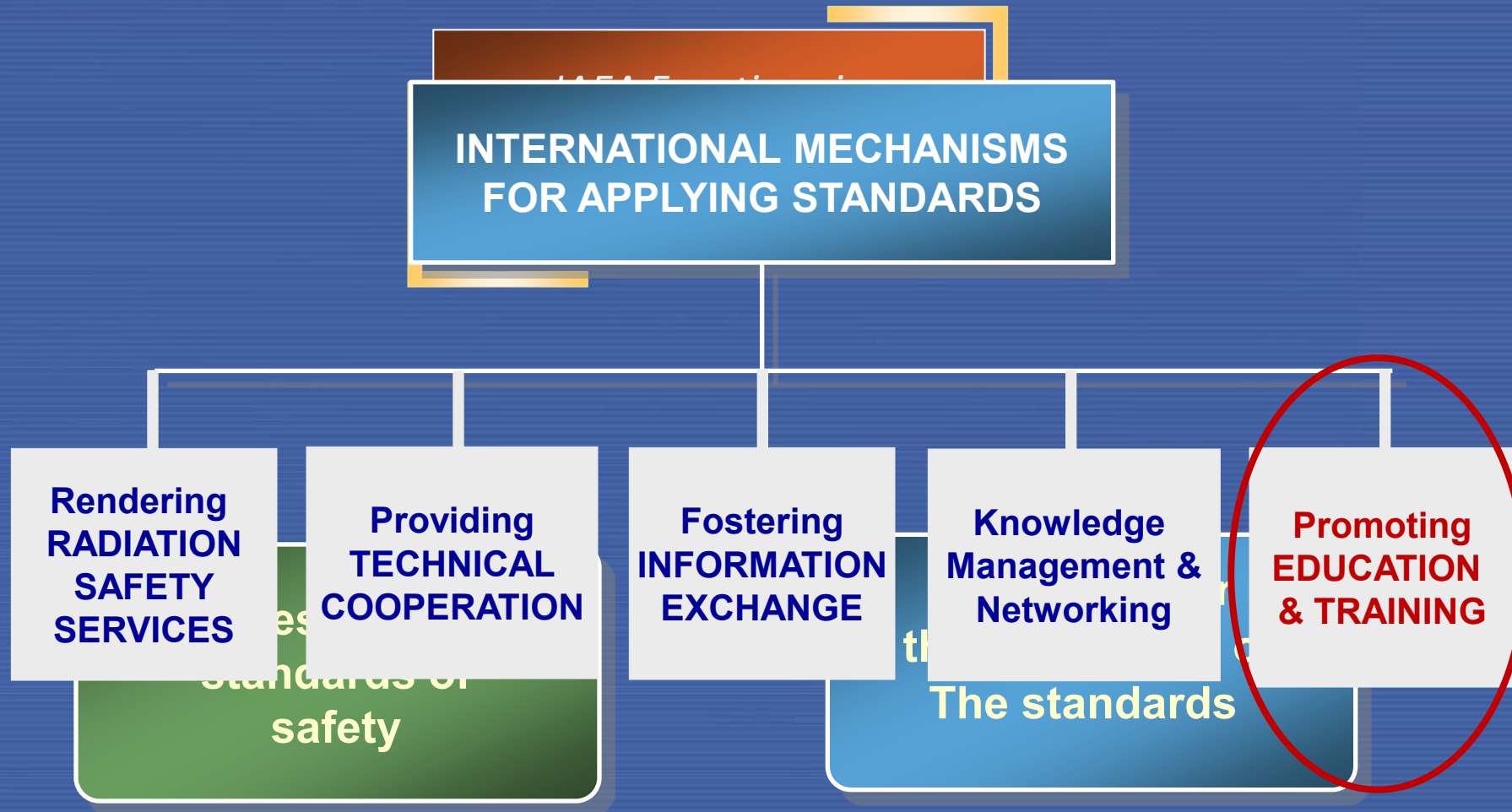
however...

- Member States receiving IAEA assistance are obliged to apply IAEA Safety Standards



For example, Member States need to have an adequate radiation safety infrastructure in order to receive radiation sources through IAEA Projects

IAEA Safety functions



IAEA MECHANISMS AND ACTIVITIES TO SUPPORT STRENGTHENING RADIATION PROTECTION IN MEMBER STATES

IAEA STRATEGIC APPROACH TO EDUCATION AND TRAINING IN RADIATION, TRANSPORT & WASTE SAFETY 2011-2020

Train the Trainers

Specialized Training Courses

Regulators, operators,
Medical staff

Appraisal Missions

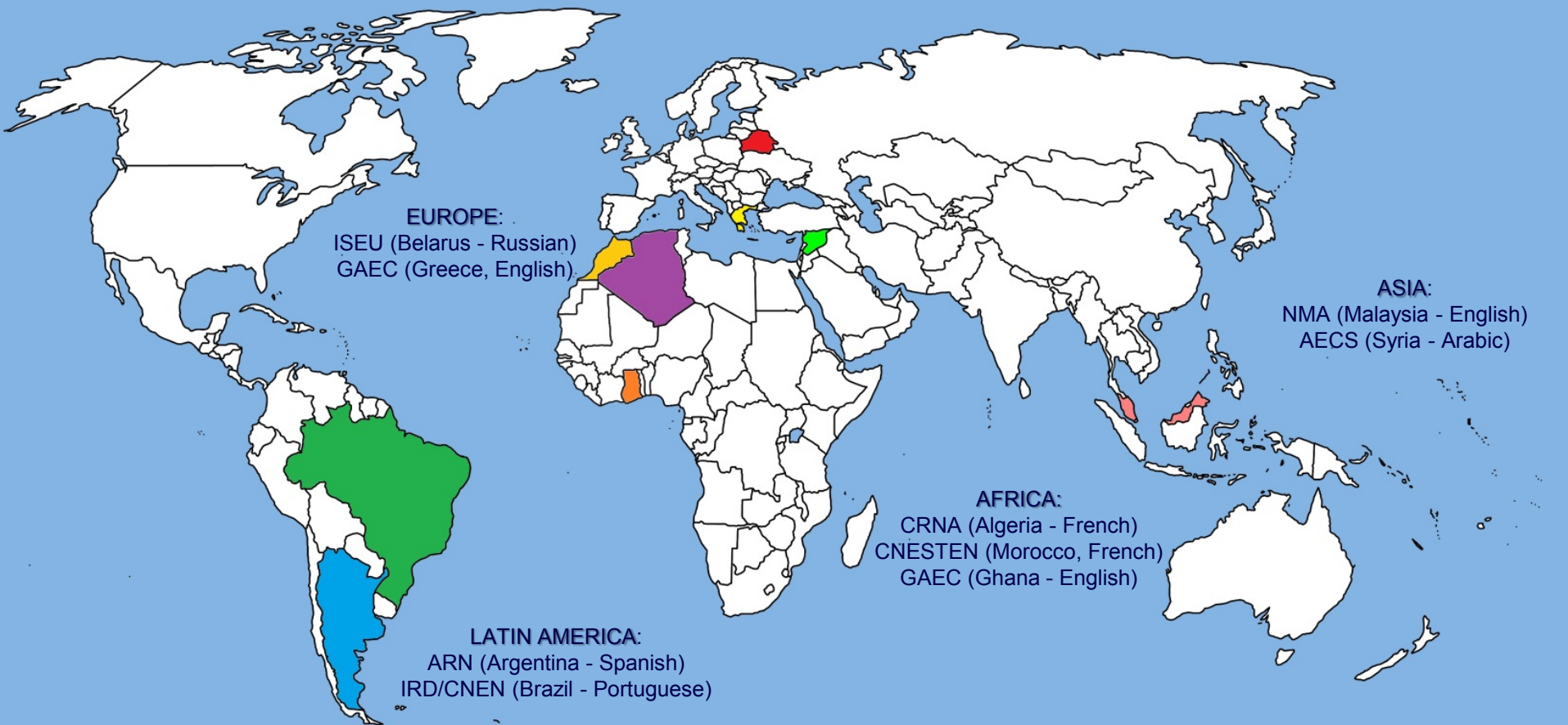
Postgraduate Education Course in Radiation Protection and the Safety of Radiation Sources (PGEC)

Fellowships & Scientific Visits

Training Radiation Protection Officers

IAEA + Regional Training Centres

IAEA Regional Training Centres



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Protection
Officers**

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IAEA STRATEGY FOR EDUCATION AND TRAINING IN RADIATION, TRANSPORT & WASTE SAFETY 2011-2020

IAEA Strategy for Education and Training in Radiation, Transport and Waste Safety 2011–2020

(Continuation of the 2001-2010 Strategy)



Strategy prepared by experts from Member States and endorsed by the IAEA General Conference



A steering committee of international experts in education and training advises the IAEA secretariat on implementation of the plan





■ Objectives

IAEA Strategy for Education and Training in Radiation, Transport and Waste Safety 2011–2020

(Continuation of the 2001-2010
Strategy)



- To strengthen radiation, transport and waste safety infrastructures through building competence in Member States (MSs)
- To facilitate the establishment of a **national strategy for E&T** in radiation, transport and waste safety in Member States
- To ensure that E&T programmes in MSs address the requirements of the IAEA safety standards

ESTABLISHMENT OF A NATIONAL STRATEGY FOR EDUCATION & TRAINING IN RADIATION PROTECTION

- Current and foreseeable facilities & activities
- No. of people to be trained
- Existing regulatory/professional E&T requirements

Assess
Needs

National
Strategy
for E&T in
Radiation
Protection

Design National
Programme

Define E&T
events &
infrastructure to
meet identified
needs

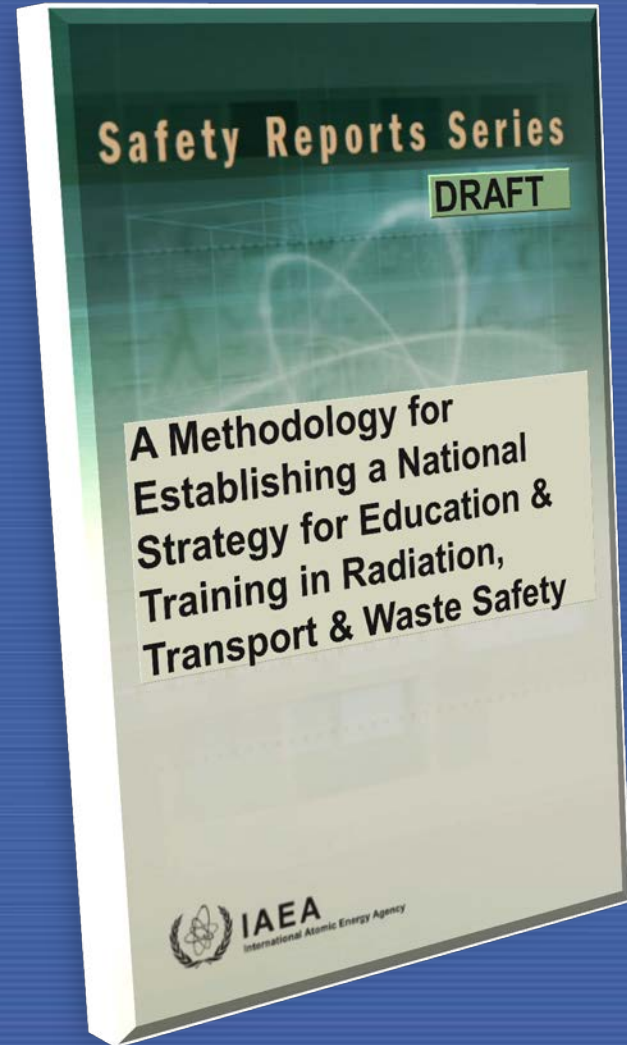
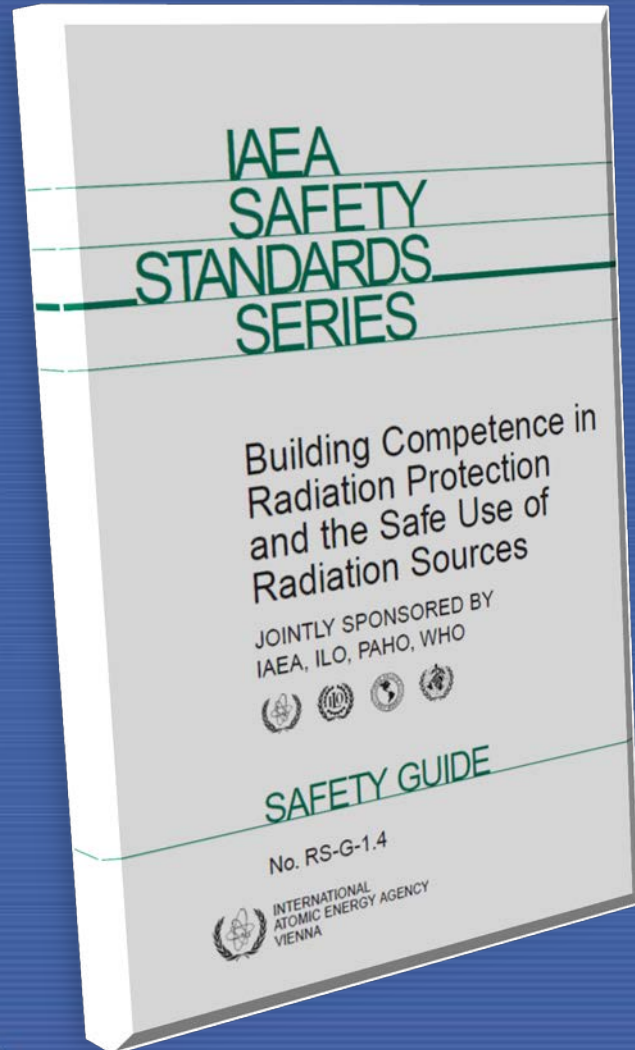
Evaluate
effectiveness

Have identified
needs been
met?
Are there new
needs?

Develop and
Implement
Programme

- Develop new/expand existing E&T programmes & infrastructure
- Consider outsourcing (international/regional/bi-lateral resources)
- Strengthen regulatory basis /professional requirements

GENERAL FRAMEWORK & GUIDANCE FOR DEVELOPING A NATIONAL STRATEGY



GUIDANCE HOW TO DEVELOP & IMPLEMENT A NATIONAL STRATEGY FOR E&T

Safety Reports Series

DRAFT

A Methodology for Establishing a National Strategy for Education & Training in Radiation, Transport & Waste Safety

ANNEX I.	CASE STUDY	18
ANNEX II.	OVERVIEW OF ACTIONS FOR ESTABLISHING A NATIONAL STRATEGY FOR EDUCATION AND TRAINING IN RADIATION, TRANSPORT AND WASTE SAFETY	45
ANNEX III.	SUMMARY OF IAEA REQUIREMENTS AND RECOMMENDATIONS FOR EDUCATION AND TRAINING IN PROTECTION AND SAFETY	51

Annex I:

- illustrates the practical application of the guidance for a hypothetical country
- helps to visualize the implementation of the various steps of the process in a practical way.

IAEA STRATEGY: MAIN PLAYERS

Main Player	IAEA	Regional Training Centres	Member States
Stage	Stage I: <u>Preparation</u>	Stage II: <u>Promotion</u>	Stage III: <u>Implementation</u>
Activity	Preparation of competence building tools and guidance on 'how' to establish a nation strategy for E&T	Dissemination and promotion of tools and guidance to MS in the region	Development & implementation of national strategies in Member States





IAEA Regional Workshops on National Strategies

Objectives:

To provide MSs with a general understanding of the IAEA guidance on the methodology

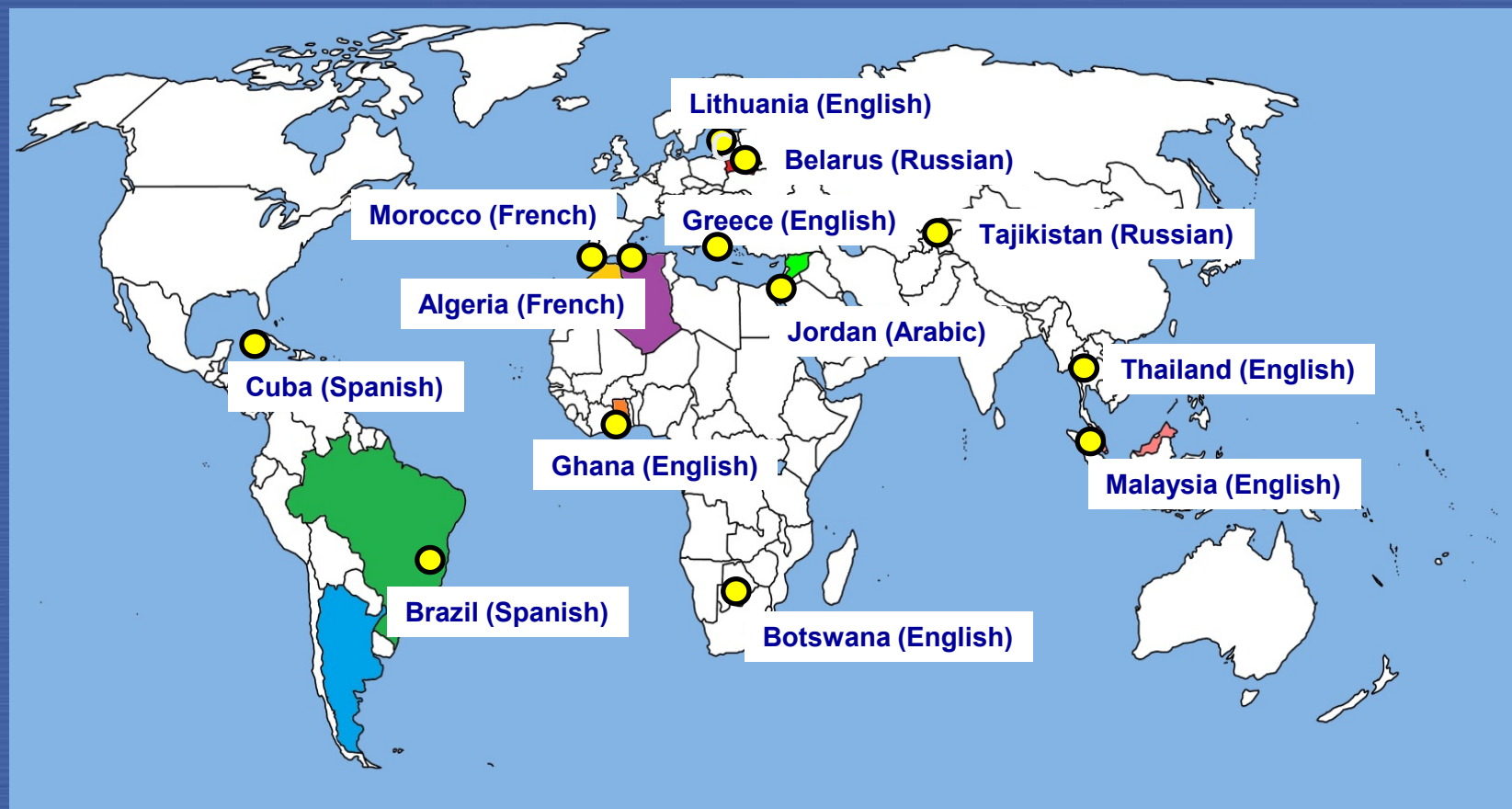
To familiarize MSs with the relevant IAEA's safety standards

To facilitate collection of national information for the development of national strategies



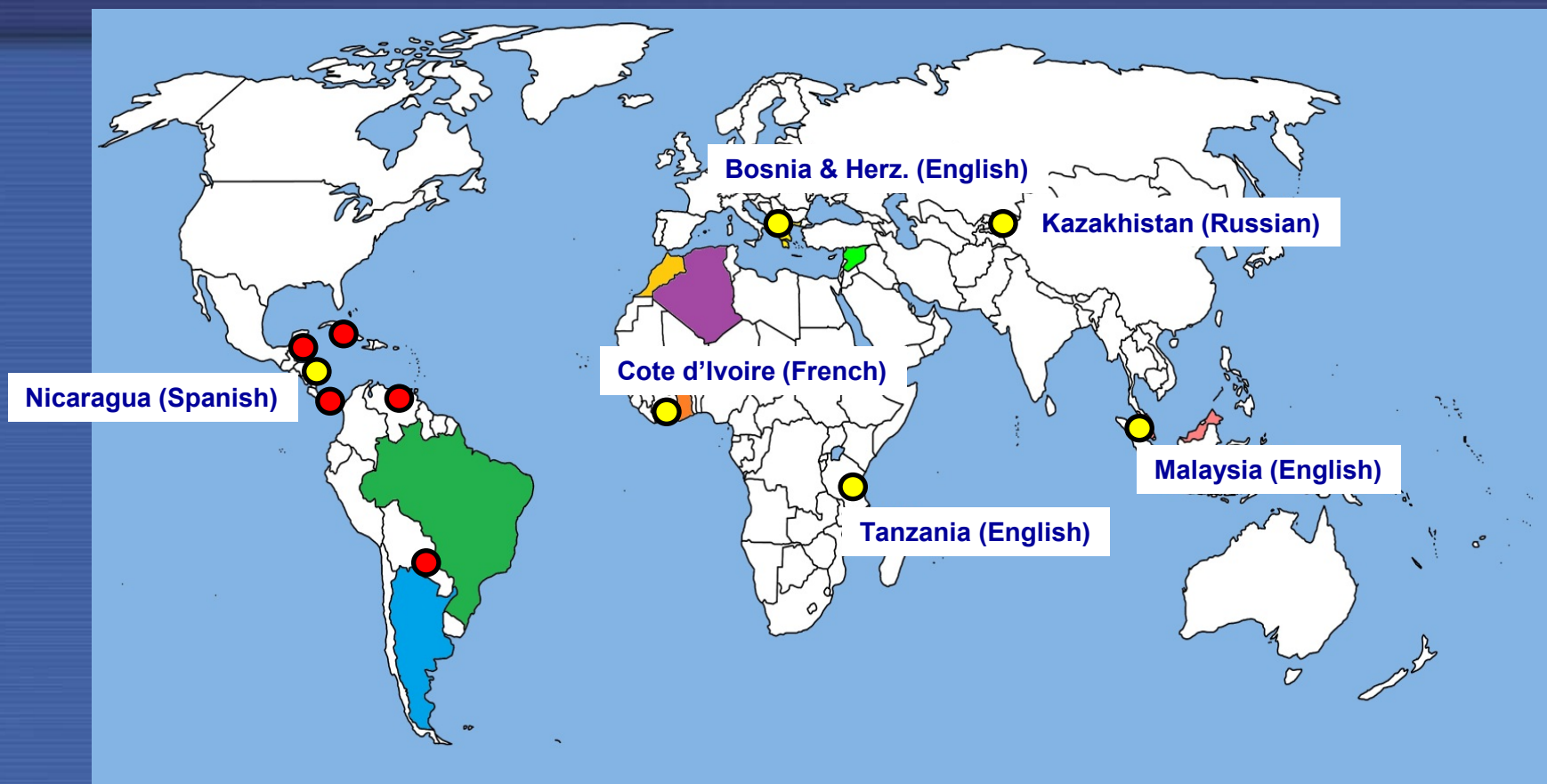
Regional Workshops on National Strategies 2012 & 2013

Hosted in 13 Countries in 5 Languages (Arabic, English, French, Russian & Spanish)



176 participants from 95 Member States

Workshops on National Strategies Planned for 2014



- 6 Regional workshops (Africa, Asia, Europe, Latin America)
- 5 National seminars in Spanish (Cuba, Paraguay, Venezuela, Guatemala)

IAEA MECHANISMS AND ACTIVITIES TO SUPPORT STRENGTHENING RADIATION PROTECTION IN MEMBER STATES

IAEA STRATEGIC APPROACH TO EDUCATION AND TRAINING IN RADIATION, TRANSPORT & WASTE SAFETY 2011-2020

Train the Trainers

Specialized Training Courses

Regulators, operators,
Medical staff

Appraisal Missions

Postgraduate Education Course in Radiation Protection and the Safety of Radiation Sources (PGEC)

Fellowships & Scientific Visits

Training Radiation Protection Officers

IAEA + Regional Training Centres

POST-GRADUATE EDUCATIONAL COURSES IN RADIATION PROTECTION AND SAFETY OF RADIATION SOURCES

■ Aim

To meet the initial education & training needs of young professionals in radiation protection and the safety of radiation sources

■ Participants

Science/engineering graduates and have been selected to work in the field of radiation protection and safety of radiation sources



- 24 Weeks duration
- Hosted by IAEA Regional Training Centres
- Learning material available in Arabic, English, French, Russian & Spanish

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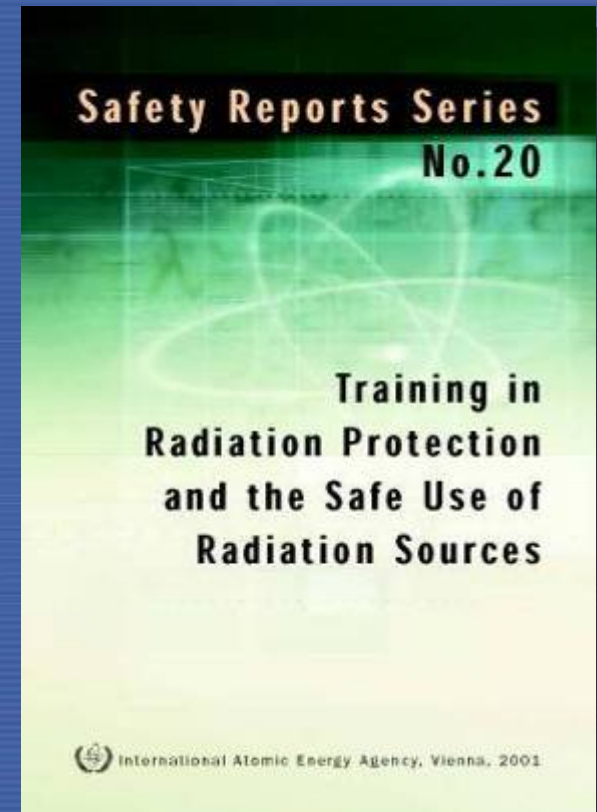
**Specialized
Training Courses**
Regulators, operators,
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IAEA + Regional Training Centres

IAEA COMPETENCE BUILDING TOOLS

Specialized Training Courses

- Focused on specific target audience or specific subject (e.g. radiation safety in industrial radiography, radiation protection in cardiology)
- Short duration, typically 1 week
- Provide in-depth knowledge
- Participants
 - Regulators, health professionals, technical staff, radiation protection professionals



IAEA School for Drafting Regulations

Target Audience: State Regulators

Aims:

- To develop / improve national safety regulations
- To share experience with other countries
- Member States to take ownership and responsibility for development of regulations

Principles of operation:

- Few lectures on key concepts, followed by long drafting sessions
- Group review of produced drafts
- Modular in scope and duration (radiation safety/waste management, etc)
- Duration 1 – 4 weeks (depending on scope)



Feedback and Outlook

- 3 Schools in Europe, 1 School in Asia, 2 Schools in Africa, very well received
- Future: more schools, increased follow up activities

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IAEA'S EDUCATION & TRAINING APPRAISAL SERVICE (EduTA)


- Peer review of national provisions for E&T in radiation protection
- Based on self-assessment against IAEA Safety Standards
- Report suggests opportunities for improvement

Countries hosting EduTA include:

Algeria, Argentina, Belarus, Brazil,
Egypt, Ghana, Greece, Korea,
Malaysia, Morocco, Singapore,
South Africa.



Monitoring E&T in Radiation Safety in Member States Information Management System (RASIMS) <http://rasims.iaea.org>

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International Atomic Energy Agency

RASIMS Radiation Safety
Information Management System

Logout

Thursday, 19 September, 2013

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Overview

Region:
Asia & the Pacific

Country:

Thematic Safety Area:
TSA6 - Education and Training in Radiological Protection

OK

>> Country Summary
>> Asia & the Pacific TSA6 - Region Profile
>> Asia & the Pacific - Region Summary
>> TSA6 - TSA Summary

TSA6 - Education and Training in Radiological Protection

1 - National Requirements for Education and Training in Radiation Protection and Safety

2 - Education and Training of Workers

3 - Recognition of Qualified Experts and Designation of Radiation Protection Officers

4 - National Policy and Strategy

5 - Analysis of education and training needs

6 - Design of a national education and training programme

7 - Development and implementation of a national education and (8) training programme

8 - Evaluation of the national education and training programme

DraftOfficial ProfileHistoryComments & Actions

Download TSA6 Template

This Revision was NOT yet endorsed by the RASIMS CoordinatorPublish

1 - National Requirements for Education and Training in Radiation Protection and Safety

Findings:

The first legislation to control the activities using ionizing radiation in [Country] was introduced in 1968 when the 'Radioactive Substances Act' was approved by the Parliament. This Act was later repealed and a new bill was approved and published in 1984, the [Country] Act 304. The main objective of the Act is to ensure safety of radiation workers, members of the public and the environment from radiation hazards as a result of activities related to atomic energy.


Four regulations were made under Act 304, namely;

- Radiation Protection (Licensing) Regulations 1986;
- Radiation Protection (Basic Safety Standard) Regulations 1988;
- Radiation Protection (Transport) Regulations 1989;
- Radiation Protection (Appeals) Regulations 1990.

The Radiation Protection (Basic Safety Standard) Regulations 1988 was replaced in 2009 by the Radiation Protection (Basic Safety Standard) Regulations 2010. The Regulations 1988 and 2010 are extensively based on the IAEA Safety Series N. 115 and a draft of the new IAEA BSS.

Requirements and provisions are established calling for all persons associated with work with ionizing radiation to be suitably trained and qualified (Ref[15] Pt.III 12(a)). The regulatory body has established guidance specifying which persons should have particular qualifications and the process to be employed for the recognition of such qualifications (Ref[15]1.4; Ref[23]6.2; Ref[23]6.4; Ref[24]). Such requirements and guidance are enforced by the regulatory body. The authorization process includes verification by the Regulatory Body that education and training requirements applicable for the

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Go to

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OK

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No Requests

RASIMS E-Learning - Updated to Version 1.1

The RASIMS E-Learning Module enables Member States easily to understand and to use the functionality of RASIMS. As RASIMS is a dynamic system and new features and modifications are released frequently, new topics and tutorial videos will be added as soon as the new features are available. Choose one of the preferred versions PC or iPad and dive into the tutorials of Thematic Safety Areas and RASIMS functionality. The current implementation is in beta release and any feedback is welcomed!

- [Click here for the PC version](#)
- [Click here for the iPad version](#)
- [Click here to download RASIMS TSA slides](#)
- [Click here to download the e-Learning Module in PDF format](#)

What is RASIMS?

RASIMS is a web-based platform that enables Member States and the IAEA Secretariat to jointly collect, analyse and view information regarding the national infrastructure for radiation and waste safety. In addition to facilitating the identification of national and regional needs, the information in RASIMS is used for a range of other purposes including the design of new technical cooperation (TC) projects and during the radiation safety clearance process prior to the provision of radiation sources to Member States. RASIMS is therefore focussed on Member States that are receiving assistance from the Agency, although all Member States are welcome to provide data on their national infrastructure. Member States can also use RASIMS to provide the Secretariat with feedback on IAEA Safety Standards.

The information in RASIMS is grouped into Thematic Safety Areas (TSA) to ensure that all aspects of the relevant Safety Standards are covered in a comprehensive and consistent manner.

**Accessible on public page
of RASIMS**

SUMMARY

- IAEA General Conference has called upon MS to develop national strategies for education & training radiation, transport & waste safety
- IAEA has developed guidance, and is providing support to MSs
- IAEA Regional Training Centres are key partners with IAEA

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Education and Training in Radiation, Transport and Waste Safety



Building competence through education and training in radiation safety is fundamental to the establishment of a comprehensive and sustainable national infrastructure for radiation safety, which in turn is essential for protecting people from the harmful effects of radiation. In order to establish a sustainable education and training infrastructure in radiation, transport and waste safety, Member States should develop a national strategy for building competence through education and training , based on

Resources

[Educational and training material](#)

[Education and Training Appraisals \(EduTA\)](#)