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

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IAEA Safety functions

To provide for the application of The standards of safety

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

To establish standards of safety
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
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
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
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

INTERNATIONAL MECHANISMS FOR APPLYING STANDARDS

- Rendering RADIATION SAFETY SERVICES
- Providing TECHNICAL COOPERATION
- Fostering INFORMATION EXCHANGE
- Knowledge Management & Networking
- Promoting EDUCATION & TRAINING

To establish standards of safety
To provide for the application of the standards

INTERNATIONAL MECHANISMS
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

EUROPE:
- ISEU (Belarus - Russian)
- GAEC (Greece, English)

LATIN AMERICA:
- ARN (Argentina - Spanish)
- IRD/CNEN (Brazil - Portuguese)

AFRICA:
- CRNA (Algeria - French)
- CNESTEN (Morocco, French)
- GAEC (Ghana - English)

ASIA:
- NMA (Malaysia - English)
- AECS (Syria - Arabic)
IAEA STRATEGY FOR EDUCATION AND TRAINING IN RADIATION, TRANSPORT & 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.
IAEA STRATEGY

Objectives

- 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

Develop and Implement Programme

Define E&T events & infrastructure to meet identified needs

Have identified needs been met?
Are there new needs?

Evaluate effectiveness

- 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
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

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

Training Radiation Protection Officers

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Regulators, operators, Medical staff

IAEA + Regional Training Centres
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
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

- Appraisal Missions
- Postgraduate Education Course in Radiation Protection and the Safety of Radiation Sources (PGEC)
- Fellowships & Scientific Visits
- Specialized Training Courses (Regulators, operators, Medical staff)
- IAEA + Regional Training Centres

Train the Trainers

Training Radiation Protection Officers
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.

EduTA mission to Malaysia 2011
National Requirements for Education and Training in Radiation Protection and Safety

Findings:

The first legislation to control the activities using ionizing radiation in the UK 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 ‘Radiation Protection (Nuclear Installations) Act 1984’ (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;

The Radiation Protection (Basic Safety Standards) Regulations 1988 was replaced in 2009 by the ‘Irradiation Protection 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 (Reg 4 part 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) 12: Ref. 23.6; Ref. 23.6-4; Ref. 24). Such requirements and guidance are enforced by the regulatory body in the authorization process include certification by the Regulatory Body. Both the training and licensing process are applicable for the...
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.
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
Thank you for your attention

Please visit our home page: www-ns.iaea.org/training/rw/

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