Education and Training

*Outline of Policy, Strategy and Resources*

*M. Moracho Ramirez, S. Mallick, A. Luciani, A. Kazenov, R. Salinas*
1. Capacity Building Concept, Policy & Principles


3. Mechanisms for Building Capacity:
   a. Review Services & Tools (Appraisals, Peer Review Services and Tools)
   b. Courses and Practical Learning (Postgraduate Courses, Curricula, BPTC, Specialized courses, fellowships) Sustainability
   c. Sustainability (Train the Trainers, distance learning, e-learning)
   d. Steering Committee/Networks

4. Conclusions, Recommendations and Challenges
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1. Capacity Building Concept, Policy & Principles


3. Mechanisms for Building Capacity:
   - Needs: Peer Reviews, Training Needs Assessment
   - Filling the Gaps: Postgraduate Courses, Curricula, Sustainability, materials for self study, e-learning
   - Networks. E&T, Knowledge Networks

4. Conclusions, Recommendations and Challenges
1. Capacity Building (CB) Concept
   Policy & Principles

   Four Principles

1. **Adherence** to International standards and guidance
2. **Ownership**
3. **Sustainability**
4. **Knowledge Sharing**

"a systematic and integrated approach that includes education and training, human resource development, knowledge management and knowledge networks to develop and continuously improve the governmental, organizational and individual competencies and capabilities necessary for achieving a safe, secure and sustainable nuclear power Programme"
1. **Capacity Building Concept, Policy & Principles**: Four Principles

2. **Strategy to E&T until 2020**: History, systematic process, integrated approach.

3. **Mechanisms for Building Capacity**:
   - **Needs**: Peer Reviews, Training Needs Assessment
   - **Filling the Gaps**: Postgraduate Courses, Curricula, Sustainability, materials for self study, e-learning
   - **Networks**: E&T, Knowledge Networks

4. **Good Practices, and Challenges**
2. Strategy to E&T until 2020

2001: IAEA STRATEGIC APPROACH to education and training produced with a focus on two areas: nuclear safety and the area of radiation transport and waste safety.

2009: Creation of a Steering Committee comprising experts from regulatory bodies and technical support organisations in Member States to advise the Agency on improving support to Member States in States’ education and training programmes in nuclear safety.


2010-2020

2012: Integrated Capacity Building concept

2013: GC(58)/RES/11 Underlining the importance of Agency programmes for education and training in nuclear security, as well as other international, regional and national efforts to this end.


2. Strategy to E&T until 2020

A Systematic Process

- **Maintenance and continual improvement** of Member States’ capacity building in nuclear safety, consistent with the Agency’s safety standards and best practices.

- **Development of an education and training support programme by the Agency in cooperation** with Member States and, as appropriate, other international organizations to support Member States’ implementation of their education and training programmes at a national and regional level.

- **Development by the Agency of a process for the effective and efficient implementation of the education and training support programme** and ensuring the continuous improvement of its implementation.
2. Strategy to E&T until 2020

An integrated approach

Integrated: national, regional, global

Education and Training Complementary Approaches

GLOBAL APPROACH
IAEA: Defining policies, frameworks and providing materials and support for E&T

REGIONAL APPROACH
Supporting IAEA Regional Networks and Centres, providing E&T resources and expertise

NATIONAL APPROACH
Member States: Establishment and maintenance of HR and national E&T infrastructure

GLOBAL NETWORKING
2. Strategy to E&T until 2020

Main components

National strategies for capacity building. (Ownership and Responsibility)

Capacity Building Mechanisms

Regional, International Cooperation and networking

Management systems, management of competence & knowledge management
1. **Capacity Building Concept, Policy & Principles**: Four Principles

2. **Strategy to E&T until 2020**: History, systematic process, integrated approach.

3. **Capacity Building Mechanisms**: three processes
   - **Needs**: Peer Reviews, Training Needs Assessment
   - **Filling the Gaps**: Postgraduate Courses, Curricula, Sustainability, materials for self study, e-learning
   - **Networks**: E&T, Knowledge Networks

4. **Good Practices, and Challenges**
3. Capacity Building Mechanisms

Needs Assessment

- Assessment of education and training needs
- Design of education and training programme
- Implementation of education and training programme
- Evaluation of effectiveness of education and training programme

IAEA Support to Capacity Building

- Review Services & Tools
  - Appraisals
  - Review Services
  - Competence Needs Assessment Tools

- Courses and Practical Learning
  - Post-graduate & Basic Professional Training Course
  - Specialized Training Curriculum and Courses
  - On-the-Job Training Fellowship Technical Visits

- Sustainability
  - Train the Trainers
  - Distance Learning
  - E-Learning

- Steering Committees & Networks
  - Steering Committees of Member States
  - Knowledge and Technical Networks

Regular Budget, Extra Budgetary, TC, Project, Regional Networks
The objective is to assist Member States to develop an strategy for maintaining a sustainable and adequate Education and Training programme in nuclear safety consistent with IAEA Safety Standards and international good practices, with due recognition to national conditions.

This objective is expected to be met by self-assessment of needs, followed by an international peer review of the results and implementation of an action plan to fulfill the identified needs.
Identifying Training Needs Assessment  
Systematic Assessment of Competence Needs (SARCoN)

1. Legal, regulatory and organizational basis
   1.1 Legal basis
   1.2 Regulatory policies and approaches
   1.3 Regulatory and regulatory guides
   1.4 Management system

2. Technical disciplines
   2.1 Basic science and technology
   2.2 Applied science and technology
   2.3 Specialized science and technology

3. Regulatory body’s practices
   3.1 Review and assessment
   3.2 Authorization
   3.3 Inspection
   3.4 Enforcement
   3.5 Development of regulations and guides

4. Personal and interpersonal effectiveness
   4.1 Analytical thinking and problem solving
   4.2 Personal effectiveness and self-management
   4.3 Communication
   4.4 Team work
   4.5 Managerial competences and leadership
   4.6 Safety Culture

Process 1
Developing competence profiles

- Regulatory functions
- Specific tasks
- Competence profiles

Process 2
Competence gap analysis

- Existing competences
- Competence gap analysis
- Training & Development, Reorganization, Recruitment or Outsourcing

Process 3
Periodic review

- Periodic Review
Filling the trainings gaps, fulfilling the training needs Sustainability
3. Filling the Gaps
Specialised courses, self study e learning in all areas of safety & security

Fundamentals and Basic Professional Training Courses

37 courses in the Training Catalogue covering all aspects of nuclear security 6 E-learning modules

CONCEPTS AND DESIGN

Training in Communication with the Public in a Nuclear or Radiological Emergency


in communication with the public, clearly or radiologically...

Presentations on Safety of Research Reactors

ON LINE  PRE-TRAINING for the PGEC

Educational and training material

Post-Graduate Educational Course in Radiation Protection

A standard text book for post-graduate educational course in radiation protection was published in 2002. The PGEC is a comprehensive training programme designed to train young professionals at predoctoral level or the equivalent for initial training to enable them to perform the required functions in the fields of radiation safety. The PGEC was designed to provide both theoretical and practical training in the radiological, scientific and other technical bases of international radiation protection and safety and on radiation measurement, and their application.

IAEA Radiation Protection of Patients (RPOP)

ON LINE PRE-TRAINING for the PGEC

E & T on IAEA Safety Standards

SST-92 Safety Standards for Nuclear Installation Safety

Regulatory Control of Nuclear Power Plants (NPPs)

The purpose of this book is to support IAEA training courses and workshops in the field of regulatory control of nuclear power plants as well as to support the regulatory bodies of Member States in their own training activities. The target group is the professional staff...

Basic Professional Training Course on Nuclear Safety (BPTC)

37 courses in the Training Catalogue covering all aspects of nuclear security 6 E-learning modules
Network of Regional Training Centers in Radiation Safety

Addressing the needs of competent people (short-term action)

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

Algeria (FR):
Ghana (EN):
Morocco (FR):
Belarus (RUS):
Greece (ENG):
Malaysia (EN):
Argentina (SP):
Global Safety Knowledge Networks

Welcome to the Global Safety Assessment Network (GSAN)

Welcome to the Technical and Scientific Support Organization Forum (TSOF)

Background
The International Conference on Challenges Faced by Technical and Scientific Support Organizations (TSOF) Enhancing Nuclear Safety and Security, which was held in Tokyo, Japan from 23 to 29 October 2016, concluded that "The IAEA should foster the establishment of a forum dedicated to nuclear safety infrastructure development issues related to scientific and technical support. Such a TSOF Forum would meet regularly in between international TSOF conferences, establish close working relations with the Regulatory Cooperation Forum (RCOF), operate in conjunction with established regional TSOF cooperation structures as well as with the NEA/CON science related issues." The recent event at the Fukushima NIFS and the subsequent Ministerial Conference at IAEA further highlighted the need of a TSOF Forum. The IAEA, as Secretariat of this forum, will facilitate...


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4. Good Practices, and Challenges
3. Good Practices and Challenges

- Promoting a systematic process and integrated approach
- Harmonizing approaches for identifying training needs based on safety competence models such as SARCoN
- Efficient ways of fulfilling the gaps by identifying training providers i.e. TSOs, regulators, training centers.
- Sustainability, Train the Trainers
- Identifying synergies and overlaps. Coordinating, synchronizing work programs amongst thematic groups
- Analysis of common issues and identifying priorities. Common strategic lines of action
- More efforts/Advise on quality, implementation and assessment of IAEA E&T support
THANK YOU FOR YOUR ATTENTION

NS Training Coordination Group led by S. Mallick,
Focal points:
Radiation, Waste and Transport Safety A. Luciani, a.luciani@iaea.org
Security A. Kazenov, a,kazenov@iaea.org
Emergency Preparedness and Response R. Salinas, r.salinas@iaea.org
Nuclear Installations Safety M. Moracho Ramirez m.moracho.ramriez@iaea.org