A Strategic Approach to Capacity Building through Education & Training
Nuclear Installations Safety

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Strategic Approach to Capacity building through E&T 2013-2020

– History and main components
– Systematic process and integrated approach
– Knowledge Framework

Mechanisms for Building Capacity: Examples
 – Peer Reviews, Competency Frameworks, Training Needs Assessment
 – Postgraduate Courses, Curricula, Nuclear Power Programme
 – Specialised knowledge, materials for self study, e-learning
 – Global and Knowledge Networks, Asian Nuclear Safety Network/CB and Education and Training Topical Groups

GNNSN as a Global Forum for Education and Training
Proposal of functions
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.


2014: A global approach to CB and KM.

Focus on Regulators and TSOs.


THE STRATEGIC APPROACH

Objectives

- 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.

“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”
THE IAEA STRATEGIC APPROACH
Systematic Process

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

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THE IAEA STRATEGIC APPROACH
Integrated Approach

Integrated: national, regional, global
THE IAEA STRATEGIC APPROACH
Knowledge based

Identifies end users, areas and level of knowledge
THE IAEA STRATEGIC APPROACH
The four component system

1. National strategies for capacity building

2. Capacity Building Mechanisms

3. Regional, International Cooperation and networking

4. Management systems, management of competence & knowledge management
THE IAEA STRATEGIC APPROACH
Capacity building mechanisms

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 IAEA STRATEGIC APPROACH
Review Services, Competence Needs Assessment
The objective is to assist Member States to develop an 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 Overall Needs for improvement (ETReS) : Education and Training Review Service, (EduTA) Appraisal

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**Objective**

The education and training review service must be initiated by a request from the Member State. It can be applied to the whole national education and training system or to individual institutions or activities. The review is focused on the nuclear safety related components of the education and training system with the objective of identifying overall needs for improvement, to be followed by a peer review and implementation of action plans.

**Scope**

The education and training review service is designed to conduct a full review of the education and training system which should be conducted by the government. However, in some cases the scope of the review might be restricted to some of the organizations (e.g., universities) having nuclear safety related activities. The scope must therefore be agreed upon with the Member State and the results adequately reflected in the final report.
Identifying Training Needs Assessment
Systematic Assessment of Competence Needs (SARCoN)

**Process 1**
Developing competence profiles
- Regulatory functions
- Specific tasks
- Competence profiles

**Process 2**
Competence gap analysis
- Existing competences
- Competence profiles
- Training & Development, Reorganization, Recruitment or Outsourcing

**Process 3**
Periodic review
- Periodic Review

IAEA
## THE IAEA STRATEGIC APPROACH

### Knowledge Management

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<td>3.5 Development of regulations and guides</td>
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<th>1. Legal, regulatory and organizational basis</th>
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Guidelines for the Systematic Assessment of the Competence Needs of the staff of a Regulatory Body

SARCoN
THE IAEA STRATEGIC APPROACH
Post graduate courses

IAEA Support to Capacity Building

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

- Course 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 IAEA STRATEGIC APPROACH
Basic postgraduate and professional training Courses on nuclear safety & regulatory control

Educational and training material

Postgraduate Educational Course in Radiation Protection and the Safety of Radiation Sources

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 members of nuclear safety regulatory bodies supervising nuclear power plants and having duties and responsibilities in the following regulatory fields: regulatory framework; regulatory organization; regulatory guidelines; licensing and licensing documents; assessment of safety; and regulatory inspection and enforcement. Important topics

Basic Professional Training Course on Nuclear Safety (BPTC)

The Basic Professional Training Course on Nuclear Safety (BPTC) is intended to provide a broad overview of all the safety concepts and their application to nuclear power plants and research reactors design and operation. Its nature and scope are primarily oriented to junior professionals recently involved in nuclear safety-related activities. It is also appropriate for highly specialized professionals who lack a broader view of nuclear safety.
THE IAEA STRATEGIC APPROACH
specialised courses in line with the IAEA safety standards
THE IAEA STRATEGIC APPROACH
Specialised modules based on the IAEA safety standards: Focus on embarking countries

- Core material: thematic and based on IAEA SS
- Application: examples of practices in MS
- Exercises: tailored to specific needs of MS with outlook on milestones of future activities

Duration: typically 1 week
Target: SSG-16 actions relevant to phases 1-3
Material: Exemplary set of presentations and talking points
THE IAEA STRATEGIC APPROACH
Knowledge Networks

IAEA Support to Capacity Building

Regular Budget, Extra Budgetary, TC, Project, Regional Networks
GNSSN provides a platform for sharing information.

Under the GNSSN, a number of steering committees, topical groups and knowledge networks support capacity building and education and training. They focus on different safety thematic areas, conduct active work often supported by infrastructure such as regional training centers.

**Efficiency and Effectiveness**

Focus on thematic areas of safety or security

Best targeted participants, with common interest and issues i.e. regional, regulators

History and proven working methods

How do they communicate, coordinate, learn from each other, build on each other's achievements?
GNSSN
Proposal of functions

1. Promoting a systematic process and integrated approach
2. Harmonizing approaches for identifying training needs,
3. Efficient ways of fulfilling the gaps by identifying training providers i.e. TSOs, regulators, training centers
4. Coordinating, synchronizing work programs amongst the groups
5. Identifying synergies and overlaps
6. Analysis of common issues and identifying priorities
7. Common strategic lines of action
8. Advise the implementation and assessment of IAEA E&T support
THANK YOU FOR YOUR ATTENTION