IAEA Strategy for E&T in Nuclear Installation Safety

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IAEA Global Nuclear Safety Framework

IAEA Integrated Vision, Common Strategy

Strategic Approach to E & T in Nuclear Safety 2013-2020:

Main elements, Process, Knowledge framework, Mechanisms for IAEA support to Building Capacity through E&T, Advisory Services, and Networking

SARCoN, Safety Report, ETRES,

Regional, International Cooperation, Milestones

IAEA web page for E&T
IAEA Global Nuclear Safety Framework

Legal Instruments, Conventions, Code of conduct

IAEA guidance:
- Nuclear safety standards
- Security guidelines
- Nuclear energy series

Review and advisory services to appraise state of implementation based on IAEA guidance.

Education & Training based on IAEA expert knowledge, guidance and standards

Operational experience, national nuclear and safety infrastructures, legal systems

03 December 2013
Integrated Vision, Common Strategy

Education and Training complementary approaches

Global Approach
IAEA: Defining policies, frameworks and providing materials and support for E&T activities

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
2013/Note 9

NOTE BY THE SECRETARIAT

Strategic Approach to Education and Training in Nuclear Safety
2013–2020

An integrated strategy for education and training (Note by the Secretariat, 2001/Note 19) in nuclear safety was developed by the Secretariat and an advisory group of Member States in 2001. In resolution GC(43)RES-10, the General Conference urged the Secretariat to implement this strategy.

In 2012, the Secretariat conducted a review of achievements on education and training in nuclear safety over the period 2001–2012 and developed a strategic approach to education and training in nuclear safety for the period 2013–2020. The present "Strategic Approach to Education and Training in Nuclear Safety, 2013–2020" is in line with and supports the IAEA's achievements on nuclear safety beyond 2013.

The new Strategic Approach was noted by the BoG March 2013

Main components of the strategy

National Strategy for CB through E&T

Capacity Building
Mechanisms

Management Systems, Competence & Knowledge Management

Regional Cooperation
Systematic Process

1. Assessment of the education and training needs
2. Design of the education and training programme
3. Development of the education and training programme
4. Implementation of the education and training programme
5. Evaluation of the education and training programme

The process is cyclical, with each step leading to the next and then back to the first step.
IAEA Support to Building Capacity through E&T, Advisory Services, Networking

Extra-budgetary, Projects, regional networks, TC, regular Budget

- Post-graduate & Basic Professional Courses
- Specialized Training Curriculums and Courses
- On-the-Job Training Fellowships
  Technical Visits
- Train the Trainers
- Distance Learning
  E-Learning
- Appraisals
  Review Services
- Training/Competition Needs Assessment Tools
- Steering Committees & Networks
  Knowledge and technical networks
BPTC

SARCON

Steering Committee of Training for Regulators for Nuclear installations

ANSN/ETTG, ETRES, other

New Video lectures, updated web, e-learning
SARCoN developed by the IAEA and Regulators’ Steering Committee on Competence of Human Resources for Installation Safety

SARCoN guidelines are a step based procedure to systematically analyse the competences needs for a regulatory body with a focus on nuclear installations safety

SARCoN use a Competency model for Regulators based on TECDOC 1254, now revised by a draft safety report “Managing Regulatory Competence”

It has a software tool and associated questionnaires with more than one hundred regulatory competences
SARCoN Tool experience of use

Validated through more than 4 TMs

Questionnaires and guidelines enhanced through 4 meetings of the Steering Committee

The EC recommended the use of SARCoN as a condition for regulatory training proposals to be financed by the EC

Appplied in more than 18 countries, all over the world, continuous feedback and improvement

Ibero American Foro of Regulators
New Project on SARCON and Regulatory Job Profiles

The questionnaires are a comprehensive compilation of competences as a shopping list but must be adapted to the particular regulator, nuclear programme, cultural/regulatory approach
New Appendix for NPP newcomer countries
A. Guidance and Methodology for Assessment of Capacity Building in the Member States with Nuclear Power Programmes and those Planning to Embark on such a Programme

A.1. Introduction

The accident at TEPCO’s Fukushima Daiichi Nuclear Power Plant has strongly enhanced focus on the need to develop, strengthen, maintain and implement the capacity building programmes of Member States (MS) with nuclear power programmes and those planning to embark on such a programme. This was highlighted at the Ministerial Conference on Nuclear Safety organized by IAEA from 21-22 June 2011 after the Fukushima accident. The Ministerial Declaration adopted by the Conference requested the Director General of the IAEA to prepare a draft Action Plan for Nuclear Safety, building on the conclusions and recommendations of the working session of the Ministerial Conference, the Declaration and the expertise and knowledge
Methodology

<table>
<thead>
<tr>
<th>Educational Institutions</th>
<th>What is needed?</th>
<th>What is available and adequate to meet the needs?</th>
<th>What is not available or needs improvement in order to meet</th>
<th>How can the deficiencies be remedied?</th>
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</thead>
<tbody>
<tr>
<td>TSO</td>
<td>What is needed?</td>
<td>What is available and adequate to meet the needs?</td>
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<td>How can the deficiencies be remedied?</td>
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<tr>
<td>Regulator</td>
<td>What is needed?</td>
<td>What is available and adequate to meet the needs?</td>
<td>What is not available or needs improvement in order to meet</td>
<td>How can the deficiencies be remedied?</td>
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<tr>
<td>Operator</td>
<td>What is needed?</td>
<td>What is available and adequate to meet the needs?</td>
<td>What is not available or needs improvement in order to meet</td>
<td>How can the deficiencies be remedied?</td>
</tr>
<tr>
<td>Government/NE PLO</td>
<td>What is needed?</td>
<td>What is available and adequate to meet the needs?</td>
<td>What is not available or needs improvement in order to meet</td>
<td>How can the deficiencies be remedied?</td>
</tr>
<tr>
<td>Area I Human Resources Development</td>
<td>Area II Knowledge Management and Networks</td>
<td>Area III Education and Training</td>
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</table>

Module I

Module II
Pilot mission in Indonesia 26-29 June

APPENDIX B
GUIDELINES FOR A GOVERNMENT LEVEL SELF-ASSESSMENT OF THE SYSTEM FOR EDUCATION AND TRAINING IN NUCLEAR SAFETY

A self-assessment of the national system for education and training should be carried out by the governmental body having responsibility for the nuclear program, in cooperation with the body having responsibility for human resource development. The self-assessment should consider the resources available in all aspects of nuclear safety, as well as the national and future utilization. The principal focus should be on current and future nuclear education and the arrangements needed to develop these resources. Seminar included the national, regulatory, and institutional arrangements related to the organization involved, awareness of responsibilities, and the needs for the government and support. It is important that this self-assessment be conducted in the context of considering the national requirements and the needs for the education and training in nuclear safety. Guidelines for self-assessment of the national system are provided in Appendices C through G.

Area 1: Basis and Framework for Nuclear Safety Education and Training

At the national level, the basis and framework for nuclear safety education and training lists the current laws, regulations, and policies governing the nuclear program, along with the national vision and plans for future utilization of nuclear energy in all areas. In addition, the basis and framework includes the laws, regulations, and policies governing the national educational system.

Question 1: What is needed?

Given the current situation and the national vision and plans for future utilization of nuclear energy, what human resources are needed and what laws, regulations, policies, and institutional arrangements are needed to provide the required education and training capabilities?

To know which laws and regulations are needed, use the doc SSG-15 “Establishing the infrastructure” in the appropriate phase, phase 2 or phase 3.

Consider:
- The current national framework of laws, regulations, and policies for education and training in nuclear science and engineering generally, and nuclear safety in particular
- The national vision and plans for the utilization of nuclear energy
- The needs for new local and international infrastructures, laws, regulations, and policies.

whether new laws or regulations are needed,
whether new or revised policies are required,
or any other measures needed to provide the required basis and framework for education and training in nuclear safety.

Area 2: Competence and Training in Nuclear Safety

Question 1: What is needed?

Consider at the national level, the required competences—Knowledge, Skills, and Attitudes (KSA)—including the level of competence—High, Medium, or Low—in that competence or skill as described in the knowledge and number of people having these skills at that level who are needed to staff government organizations, academic institutions and professional training organizations; the regulatory body, and operating organizations, in the light of the current situation and the national vision and plans.

Question 2: What is available and adequate to meet the needs?

Consider the current status of the education and training system to produce people with the required skills in the required numbers. Consider also the means available at a national level to attract new personnel into the field of nuclear safety, train them, and retain them.
D.2. Key Milestones

The 2013–2020 strategic approach is a continuation of the activities initiated in the previous strategic approach, with additional activities included. Implementation of this strategic approach can be divided into three phases (see Table 1).

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<tr>
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<th>Phase I Preparation</th>
<th>Phase II Promotion</th>
<th>Phase III Implementation</th>
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<tr>
<td>Activities</td>
<td>Complete the development of tools and guidance for capacity building through education and training in nuclear safety</td>
<td>Dissemination of tools and guidance at regional level and among Member States</td>
<td>Development and implementation of national strategies in Member States</td>
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<td>Major role*</td>
<td>Secretariat</td>
<td>Agency, regional and knowledge networks, RTCs</td>
<td>Member States</td>
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* The Secretariat, RTCs, collaborating centres and training centres in Member States will all be involved in specific tasks as appropriate.
http://www.iaea.org/Publications/Training/index.html

Interdepartmental Training Page:

Categories:
- Main Training and Information Pages
- Training Materials
- Training Services and Tools
- Training Courses and Fellowships
- E-learning and Online Courses
- Links to IAEA Support - Regional Cooperation Networks
Thank you for your attention

http://www-ns.iaea.org/training/ni/materials.asp?s=100&l=75

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