
Education, Training and Staffing: what are the new challenges ?

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WHY E/T and S ?

- **Key issues identified for the radiation protection and the safe and secure management of radiation sources:**
 - building the capability of radiation workers and professionals
 - maintaining it
- **A main concern : (Nuclear Energy Agency 2008 report on nuclear education and training programmes at university level)**
 - deterioration of nuclear education
 - lack of young faculty members to replace ageing and retiring members.



A strong need for commitment and mobilisation of resources

- It is difficult to quantify exactly the existing E&T needs at the national and also at the regional level.
- However, a commitment and mobilisation of resources (international organisations, relevant stakeholders for E&T)...**Is now visible.**

Sharing a common vision:

SUSTAINABLE E&T system is in place in Member States compatible with the requirements of the BSS and other relevant radiation safety standards.

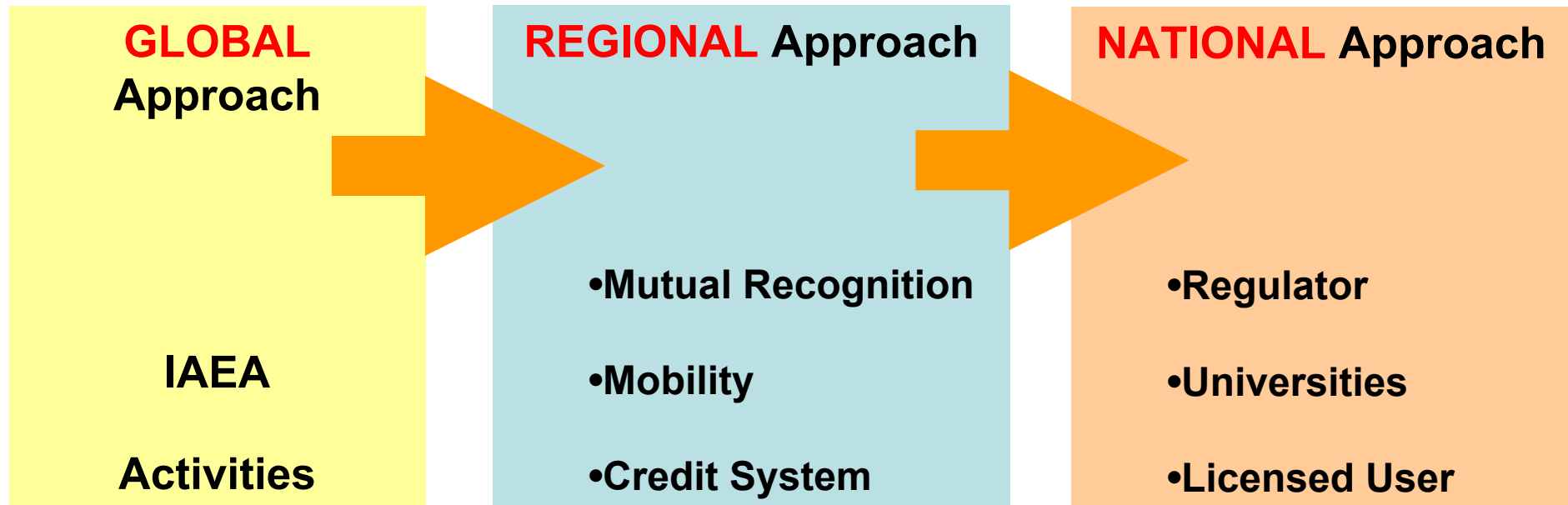


The primary role and responsibility lies at national level

- **Ss should develop a national strategy for building competence in radiation protection and the safe and secure management of radiation sources**
- **For a regulatory body at an early stage of development :**
 - **The national strategy may not yet exist in such countries**
 - ☞ **Immediate issue : training of the regulatory body staff.**
- **To be defined:**
 - **Who has to be trained?**
 - **Level , mechanism, syllabus...etc?**
 - **Staffs : composed of appropriately trained people in a sufficient number**



3 complementary approaches for Education and Training activities





Global Approach: (1) E&T needs

- **To collect the information on E &T: IAEA survey started in 2007**
- **General observations concerning the E&T needs are**
 - **A high need for training in medical practices,**
 - **Almost no countries with low training needs,**
 - **Many countries where there are no (or few) practices in place at present,**
 - **And these countries might have a high priority training need in the future if additional practices are implemented.**
- ☞ **E&T needs to be met, should be established considering both**
 - **The practices in place in the country**
 - **The job categories (e.g. QE, RPO, operator/technician, others occupationally exposed..)**



Global Approach:

(2) IAEA's strategy for the coming years

- To meet the milestones set forth in the E&T strategic plan
- To support the **use and appropriation by Regulatory Bodies** of tools to design and implement the national E&T&S plans within a regional context
 - developing guidance to regulatory bodies on establishing **national** training programmes and staffing plans within **national and regional** context
 - develop the **'Training Tool Kit'** to aid MS establish national training strategies for radiation protection and safe use of radiation sources including the training needs analysis
 - Promote the **cooperation of MS's with Regional training centres**



Regional approach :

(1) The challenges

- A wide variety of national approaches for education and training of the qualified expert, ☞ Need for:
 - The development of a **common European radiation protection and safety culture**
 - The **mutual recognition**
 - Of acquired **competencies** of radiation protection experts
 - Of radiation protection **courses**.
- The **harmonisation of E&T** : a good starting point, in favour of the **mobility** of workers and students
- Therefore, the EU supports
 - Research projects in education and training : **ENETRAP** (European Network on Education and Training in Radiological Protection),
 - The establishment of the **EUTERP Platform** (European Training and Education in Radiation Protection).



Regional approach: (2) ENETRAP Project

- **Objectives : to contribute to the**
 - **Integration of existing E&T activities in a European radiation protection infrastructure**
 - **Development and implementation of harmonised approaches for E&T in Europe**
 - **Integration of national E&T resources/capacities**
 - **Provision of necessary competence/expertise for continued safe use of radiation in industry, medicine and research**

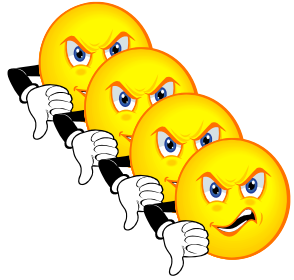
Project duration: 04/05 – 12/07



Regional approach (3) EUTERP Platform

- **A network for cooperation** between MSs
- **Objective: To harmonise the criteria and qualifications** for and mutual recognition of RP Experts and RP Officers
- **> 150 partners :**
- **Deliverables targeted are recommendations on:**
 - The definition of the RP Expert,
 - The role, duties and competence of RPO
 - Methodology for mutual recognition and Re-certification

National approach (1) At operational level



Education
+ Training
+ Qualification



*For each given task :
An adequate number
of Competent
workers*

Licensee





National approach: (2) The staffing process

A systematic managerial approach relevant for **Reg. Body**, as well as for **Licenseses**.

Analysis of the safety needs for a practice,



- a) Assess staffing needs,
- b) Define staff competencies,
- c) Identify the training needs of staff
- d) Establish a training programme for staff.



Develop individual training plans

- IAEA has developed
 - a **practical guidance** to radiation safety regulatory bodies (“Guidance for Radiation Safety Regulatory Bodies in the Establishment and Maintenance of a Staffing Plan”) and a **Training Programme**
 - a **Self Assessment Tool** for the regulatory body + organizes **workshops** to train the Member States on the use of this tool.



National approach: (3) Regulatory body

- **The staffing of the regulatory body: a pending question**
 - in countries where the regulatory infrastructure is not yet finalized or has just been achieved.
 - in case of a substantial increase in the number of licensees,
 - or when new types of practices emerge in the country.
- **The regulatory body should have**
 - An optimal **number** of staff with **qualifications** needed to perform the range of functions identified in GS-R-1.
 - A **staffing plan** identifying: number and type of staff, including the specific knowledge and skills of each type of staff,
 - A **training programme**: forecast of the training needs based on the analysis of the training needs of its staff.
- **Methodology : ref. to IAEA specific guidance**



National approach: (4) Regulatory body

- The regulatory authority has the specific duty to **elaborate a national strategy for building competence in radiation protection and waste safety.**
 - A method to develop this national strategy: IAEA RS.G-1.4
 - National strategy requirements for E&T and S :
 - applicable to **all licensees.**
 - In particular, definition and requirements for **QE and RPO** are of main importance.
- **Help /support :**
 - IAEA publication ,
 - IAEA Integrated Regulatory Review Service (IRRS),
 - IAEA Education and Training Appraisal in radiation protection and the safety of sources (EduTA) self appraisal or EduTA IAEA mission.



National approach: (5) licensee

- **At national level, often only very few staffing requirements or guidance are available:**
 - **Except for some specific practices**
 - **Training and sensitisation of managers to staffing processes and to good management practices (IAEA standards, ISO 9001 – 2000 or equivalent system) are crucial to maintain a suitable level of safety in the facility.**

- **For staffing purposes, Licensee may have to ensure that personnel may need :**
 - **initial training + additional training to update the competency.**
 - **achieved through different training methods: classroom-based training, distance learning, OJT, or mentoring.**



National approach: (6) licensee

- Depending on the type of facility/practice,
 - The role, duties and training required for both the QE and RPO are:
 - defined at the international level
 - transposed into the national regulation.
 - Initial definitions: glossary of the “*International BSS*” (IAEA -BSS115)

October 2007: IRPA suggested new definition and missions of a “Radiation Protection Expert” (RPE).

☞ QE/RPE: Need for harmonization ! These multiple notions and definitions are confusing and raise difficulties:

- Personnel trained abroad: the formal **recognition** by national bodies of the training due to different definition of some qualifications levels ?
- Limit the **mobility** and the use of human resources ?
- Might result in a **loss** and a waste of competency ?



Conclusion

- **For future years : To identify and meet the growing E&T needs in radiation protection in industrial or medical applications**
 - Including initial education (\neq educational levels), specialization and refresher trainings
- **The diversity of topics and levels to be covered is broad :**
 - consistency and coherence at national level must be carefully considered by the national RA, in particular when developing their own staff.
- **For building competence, Mixing national, regional and international approaches will**
 - Bring more effectiveness,
 - Shorten the delay in implementation
 - Benefit from lessons learned,

***These E&T and S issues: - a crucial investment for the future ,
- a key to attract the young Generation choosing
RP as their career !***

**SO MUCH TO DO
SO LITTLE ACHIEVED**

W. Churchill



Thank you for your attention !