Policy, development and delivery of education and training programmes in radiation protection: a crucial contribution to the safe use of ionising radiation

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Need for radiation protection knowledge, skills and competences

Today’s situation

Over past years: decrease in number of high-level competences in radiation protection. However, increased attention to RP is needed: more technologies (and more frequently used) rely on ionizing radiation.

ACTIONS:

- Increase awareness that knowledge of RP science and adequate skills are important (at all levels in medical, industry, research, ...).
- Support of young students and professionals in their need to gain and maintain high level radiation protection competences.
- Develop good infrastructure for education and training:
  - to combat the decline in expertise;
  - to assure high level of future RP knowledge and skills;
  - Overall safe use of ionizing radiation
European legal framework

- European legal framework
  - **RPE, RPO, MPE** (in replacement of QE in former BSS)

- IAEA safety guides

- Common European goal:
  - Clear and uniform terminology on professions in RP
  - Common qualification criteria
  - Common mutual recognition system for acquired competences of RP professionals
  - Facilitating lecturer, learner and worker mobility across the EU

⇒ Common RP and safety culture
European Qualification Framework

- **EQF** is a common European qualification reference framework which links countries’ qualifications systems. It consists of 8 reference levels that are described in terms of Learning Outcomes (LO’s).

- **LO’s** are statements of what a learner knows, understands and is able to do on completion of a learning process defined in terms of knowledge, skills and competence.

- **ECVET** is aiming at enabling learning mobility for young and adult learners, as well as at supporting lifelong learning and recognition of prior learning in Europe. ECVET can be seen as a complementary system to the ECTS system: where **ECTS** was developed for academic education, ECVET targets vocational education and training (VET).

- Radiation protection courses for RPO/RPE/MPE are generally listed from EQF level 5 to 8.
Experience from implementation of previous Euratom Council Directive 96/29/EURATOM

- In answer to legal requirements: almost all EU member states and candidate states provide an E&T program, based on European BSS and the definition of “qualified expert”

- BUT:
  - Wide variety in terminology (QE, RPE, RPO, personnes compétentes, ...)
  - Wide variety of national approaches for E&T programs and for the recognition of “qualified experts” in EU member states

- First approach to harmonization by ENETRAP 6FP (2005-2007)
- Follow-up 7FP projects ENETRAP II (2009-2012) and ENETRAP III (2014-2018)

- These issues are also the concern of the EUTERP Foundation
First approach to harmonization by ENETRAP 6FP
Most important realisations

**EDUCATION**

- Establishment of Consortium of Universities → Launch of European Master in RP

**TRAINING**

- **ENETRAP questionnaire,** resulted in an overview on:
  
  A. numbers of RPE's and RPO’s;
  
  B. identification of practices;
  
  C. national capabilities for E&T in RP;
  
  D. regulatory requirements;
  
  E. recognition.

- **Introduction of preliminary “ENETRAP training scheme”**
  (based on ERPC/IAEA PGEC/ results questionnaire)

- **Development of first E-learning module** via MOODLE

- **Advise on implementation of OJT/WE**

- **Supported by end-users and providers (via EUTERP)**

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Coordinator
SCK•CEN

Partners
CEA-INSTN
FZK-FTU
Bfs
CIEMAT
NRG
ENEA
HPA-RPD
UJF Grenoble
NHC Scotland
Primarily dealing with RPE and RPO, but interested in medical field and the approaches used for MPE

Towards European reference training scheme for RPE, serve as basis for mutual recognition

Introduction of ECVET approach, learning outcomes in terms of K, S, C

Organization of pilot sessions, production text-book and (limited) complementary cyber book

Introduction of training registration system for CPD, in cooperation with parallel nuclear E&T projects (in geological disposal, nuclear engineering, ...)

Towards sustainable results via EUTERP and HERCA

International context: advisory group members: Art. 31 GoE, DG ENERGY, ECVET, EFOMP, EUTERP, HERCA, IAEA, IRPA
European reference training scheme for RPE
Started a 3-year project DG ENERGY in 2006,  
°2010: EUTERP Foundation: legal entity under Dutch law

Main objectives:

- Contribute to the development of a European policy with regard to E&T and competence development in RP
- Encourage and support harmonization of E&T requirements for RPEs, RPOs and workers, facilitating mobility of these professionals
- Act as central focus point for the sharing of information on training events, European standards, latest developments, and all other related information
- Connect to HERCA and other institutions and networks to set up sustainable collaborations and to advance RP E&T

Newsletters, workshops, www.euterp.eu
Future challenges

- Strengthen EUTERP

- ENETRAP III:
  - Guidance for the implementation of new Euratom BSS E&T matters
  - Strong connection with policy organizations and regulatory authorities
  - Introduce quality stamp and designated organization to provide this quality label
    → validation of courses, guaranteeing acceptance by national authorities as part of recognition for RPE/MPE
  - Demonstrate mutual recognition in practice