

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:

Fill the gap

Prepare for future needs

Attract new people

Provide adequate E&T

- **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

- Euratom Basic Safety Standards: Council Directive 2013/59/Euratom of December 5 2013, published on January 17 2014
- **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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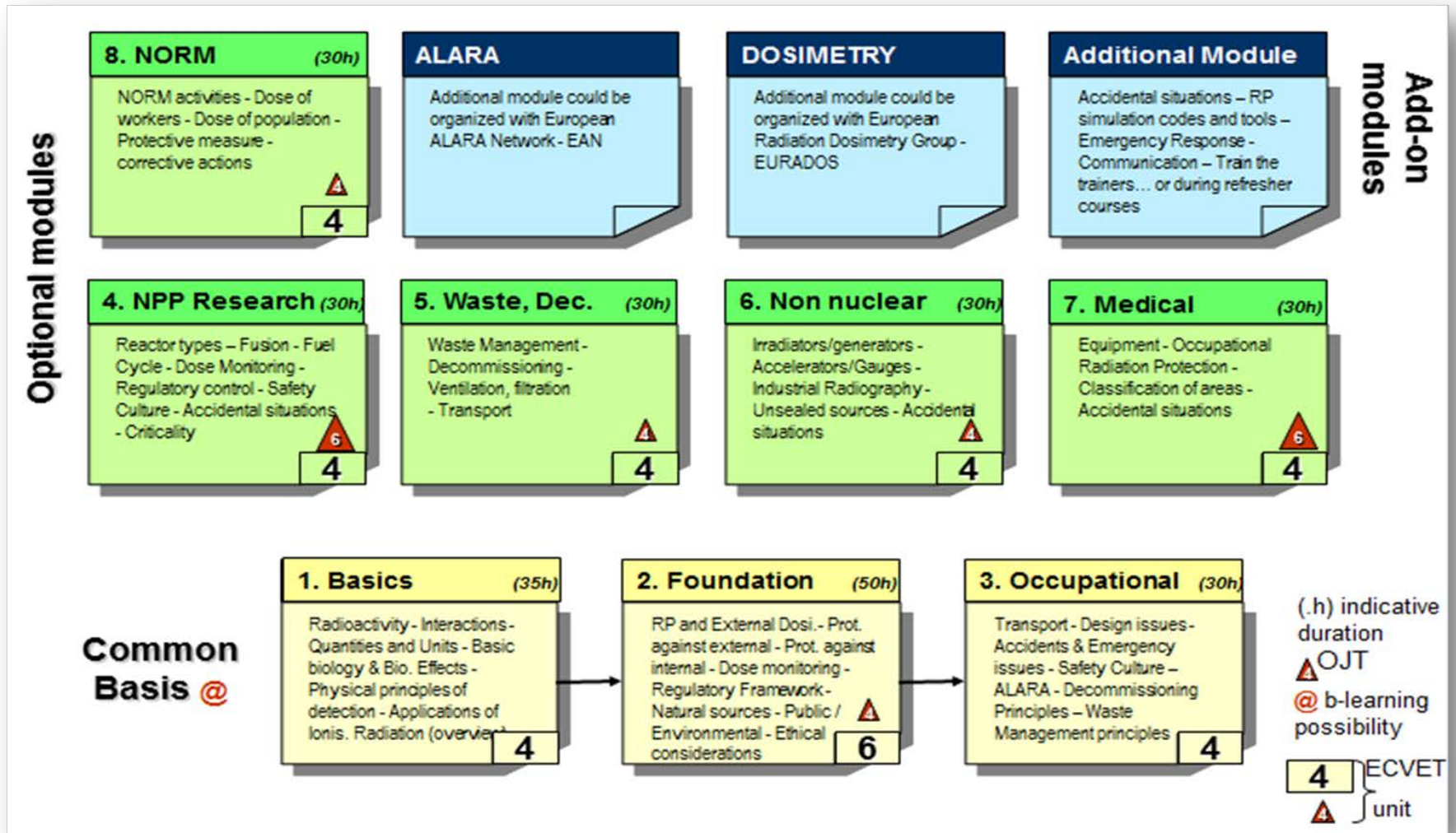
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- Primarily dealing with RPE and RPO, but interested in medical field and the approaches used for MPE
- Towards European reference training scheme for RPE, serve as basis for mutual recognition
- Introduction of ECVET approach, learning outcomes in 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



- 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