

ACHIEVEMENTS AND ONGOING ACTIONS RELATED TO THE 7FP ENETRAP III PROJECT

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ABSTRACT

Specifically for technologies that make use of ionising radiation, nuclear safety, assuring the protection of men and environment, is of utmost importance. The perceived growth of the use of radioactivity in different application fields such as medical, industrial, research and other sectors, requires an advanced understanding of radiation protection in order to protect workers, the public and the environment from the potential hazards of ionising radiation.

Within this perspective, maintaining a high level of competence in radiation protection, assuring suitable well-trained personnel and adequate knowledge management is crucial to ensure future safe use of ionising radiation and the development of new technologies in a safe way.

To this end, adequate high-level education and training (E&T) is crucial to prevent the decline in expertise and to ensure the availability of elevated radiation protection knowledge, skills and competences which can meet the future demands. In order to also contribute to a common high-level safety and radiation protection culture, the training policy and its implementation should have an international character, encourage lifelong learning and facilitate exchange of workers across national borders. ENETRAP III aims at developing several elements that contribute to the implementation of this approach, in line with the ECVET principles.

1. Introduction

The ENETRAP III project is designed to build further on the achievements of the previous two sister projects, and finalize the policy and implementation for E&T in radiation protection for RPE's and RPO's, in line with the Euratom Basic Safety Standards. It is the intention that ENETRAP III will develop aids for the implementation of a harmonized E&T structure, which could be especially useful for newcomers countries.

ENETRAP III adds new and innovative topics to existing E&T approaches in RP. It will further develop the European reference training scheme with additional specialized modules for Radiation Protection Experts working in medical, geological disposal and NPP. It will implement the ECVET principles and will establish targeted assistance from regulators that will play a crucial role in the endorsement of the proposed courses and learning objectives.

ENETRAP III will also introduce a train-the-trainer strategy. All organized pilot sessions will be open to young and more experienced students and professionals. In this way, ENETRAP III aims to contribute to increasing the attractiveness of nuclear careers and to lifelong learning activities.

A web-based platform containing all relevant information about E&T in RP will facilitate an efficient knowledge transfer and capacity building in Europe and beyond.

ENETRAP III will also propose guidance for implementing E&T for Radiation Protection Experts and Officers, hereby providing extremely important assistance to all Member States who are expected to transpose the Euratom BSS requirements into their national legislations. Moreover, ENETRAP III will demonstrate the practical feasibility of earlier developed concepts for mutual recognition and thus provide leading examples in Europe demonstrating effective borderless mobility.

For all these activities ENETRAP III will strongly connect with all stakeholders, i.e. end-users, E&T providers, legal authorities, and to other relevant international organizations, groups and networks dealing with E&T in radiation protection.

2. Results and achievements

In this paragraph an overview is given of the status of the work performed in the different Work Packages (WPs) of the project.

WP2 - Establish partnerships ensuring feedback from stakeholders

The objective of WP2 is (i) to closely involve regulatory authorities who are supposed to provide the legal framework for implementing roles and functions of RPE, RPO and MPE as well as the appropriate E&T requirements of the Euratom Basic Safety Standards in the development of the project work and the dissemination of ENETRAP III results, and (ii) to facilitate cooperation and exchange of information with technology and radiation research platforms, such as SNETP (nuclear safety), IGDTP (waste management) and MELODI (low dose research), and other associations and institutes, with respect to E&T. Such cooperation should help to ensure consistent and comparable approaches to radiation protection training activities.

In a first phase, when the project concentrated mainly on conception, close collaboration was set up with HERCA and EC DG ENERGY (specifically in the frame of WP7), EUTERP, EFOMP, the ENEN Association and the international organizations IRPA and IAEA.

In a second phase, which is more focused on implementation, other groups such as Art.31 Group of Experts and the European Platforms will be more involved.

Today, the strong liaison and collaborations with EUTERP, IRPA and IAEA and the involvement in the programme of this ETRAP conference organized by ENS, puts the ENETRAP III project and its result to the eye of the European and international stakeholders.

WP3 - Develop further specialized training modules for RPE and run pilot sessions

The objective of this WP is to further develop the ENETRAP reference training scheme for RPE and expand it with specialized modules that have not yet been developed before (these are modules for the RPE working in the medical area, in NPP and in geological disposal).

For each of the Specialised Module Learning Outcomes based on the Bloom taxonomy and comprising the ECVET approach have been developed. Course requirements and programmes have been defined. Required training materials have been prepared. The results have been reported (D 3.1).

Training venues and dates were fixed. In order to announce the training sessions, leaflets, both electronic and printed, have been distributed among appropriate national organizations

and groups. Additionally, the pilot sessions were displayed on relevant internet platforms, including the ENETRAP III project website and the EUTERP website.

Building further on the courses organized in the frame of the previous ENETRAP II project, following courses were organized in the frame of ENETRAP III:

1. A course designed for Radiation Protection Experts (RPEs) working in the medical field, consisting of an online phase as from September 2015 (using the IAEA CLP4NET Platform) and a face-to-face session July 4-8, 2016 (Budapest, Hungary). This course was very successful and will most likely be ran on a continuous basis beyond the project.
2. A course designed for Radiation Protection Experts (RPEs) working in geological nuclear disposal, consisting of a one week face-to-face session from January 16 until 20, 2017 (Karlsruhe, Germany).
3. A course designed for Radiation Protection Experts (RPEs) working in Nuclear Power Plants & Research reactors, consisting of a one week face-to-face session held in the same period from January 16 until 20, 2017 (Karlsruhe, Germany).

WP4 - Develop a train-the-trainer (TTT) strategy and organize a TTT training event

In addition to the training courses for RPEs and RPOs, it was also intended to provide a training course for the trainers themselves.

It is the objective of this WP to develop a train-the-trainer strategy that will, along with other aspects, promote the ECVET concept. In this way ENETRAP III aims for a sustainable implementation of the most recent didactic methods in a harmonized way throughout current and future training courses in radiation protection (and other nuclear topics), facilitating good practices in training course development and implementation.

The intension of this TTT event is to increase the didactic skills of the participants (often being themselves RPEs or RPOs in charge of training), inform them about new tools both in the domain of didactics as well as in the domain of E&T policy (like the EC ECVET and EQF frameworks). It is not intended to update the scientific radiation protection competences of the participants. Therefore, this TTT will not only be relevant to trainers in radiation protection, but also to trainers in other nuclear domains such as nuclear engineering or the medical area.

Guest lecturers from outside the ENETRAP III consortium, such as an expert from JRC Petten/the EHRO-N observatory, have accepted to contribute for a practical workshop (specifically dealing with the implementation of the ECVET concept).

This training will alternate theoretical plus methodological contributions and real-life professional situations. This training is intended for professionals already involved in training. Indeed, alongside the technical competences also called "hard skills", human and relational qualities, "soft skills", are increasingly valued. These skills are oriented on the long term and help to predict the participant's ability to effectively integrate all knowledge taught and then, they can teach in return.

In this TTT course, there is the desire of training designers to offer a highly participatory training and thus trainees will be highly attracted and involved in the training process through tailored sequences.

Each sequence is described in a document, incorporating objectives, learning outcomes, descriptors such as knowledge, skills and attitude, and finally assessment methods.

One session of this course, in French, was already organized from February 13 until 17, 2017 at the INSTN in Saclay (France) and an English session is planned June 26 - 30, 2017 on the same venue.

WP5 – Dissemination of project results and contribution to a website for capacity building and transfer of know-how relevant to radiation protection E&T

The WP5 commitment is the dissemination of the activities and results of the series of ENETRAP projects, via project events and a website, in order to bring together the information that is currently spread over several websites and other carriers, and to promote the EUTERP community improving the EUTERP website to become a capacity building and transfer of know-how in radiation protection tool. In addition, a database will be developed, easy to use and with a strong search engine, where all stakeholders can find all relevant information regarding E&T courses and other opportunities in radiation protection in Europe (and beyond).

Capacity building is a strategy based on a consensus on common needs, the vision and instruments for research and training in RP matters to create and transfer knowledge and to develop skills and competencies of the individuals, organizations and countries, to protect workers, the public and the environment from the potential risks of ionizing radiation, today and in the future. It is supported mainly in 4 pillars: Education and training, Knowledge management and preservation, Knowledge networks and Human resources mobility.

Having in mind the above concepts, a detailed study of the results of previous ENETRAP-projects results and an analysis of the structure of different platforms of transparency delivering a CB strategy, has led to a proposal of website structure, requisites and functional analysis as reported in the first WP5 deliverable.

It is envisaged that the implementation of the ENETRAP III database will be performed mid 2017, and be available by the end of 2017 via the EUTERP website to all relevant stakeholders.

The database is available to other groups for customized use.

WP6 - Testing of methodologies for RPE recognition and mutual recognition in practice

The task in WP 6 is to test the methodologies proposed within the guidance developed under Work Package 7 for the professional development of Radiation Protection Experts and the subsequent recognition of RPEs by the national Competent Authority. The primary objectives with this testing is primarily to refine and validate the proposed methodologies and to promote their acceptance within Member States. A supplementary objective is to demonstrate a European registration system for RPEs.

This work package spans the full duration of the ENETRAP III project and is still in full progress.

WP7 - Writing of guidance to support the implementation of E&T requirements for RPE and RPO as defined in the Euratom BSS

The objective of WP7 activities is to facilitate the implementation of the new requirements for RPE and RPO in EU Member States and to help ensuring a consistent approach throughout the European Union.

The Euratom BSS Directive lays down specific requirements for the Radiation Protection Expert (RPE) and for the Radiation Protection Officer (RPO) which have to be transposed by each Member State into national legislation and implemented in practice. Experience has shown that, even though the specific requirements in a European Directive may be quite clear, there can be widely varying approaches to the interpretation of those requirements and implementation in practice.

It is considered that the availability of clear and substantive guidance on how the new requirements for RPE and RPO would be best implemented in Member States would be of value, not only in facilitating the implementation of the requirements across Europe, but in helping to ensure a consistent approach.

Within the framework of ENETRAP III WP7 a guidance document “European Guidance on the Implementation of the Requirements of the Euratom BSS with respect to the Radiation Protection Expert and the Radiation Protection Officer” has been developed and made available on the ENETRAP III and EUTERP website.

In this guidance document all key issues for RPE and RPO are addressed:

- adoption of requirements into legislation;
- intended roles/functions/duties of RPE and RPO;
- required infrastructures and mechanism for recognition (RPE);
- suitability and competence requirements (RPE and RPO);
- appropriate education and training.

The guidance proposed complements the guidance being developed in the medical field by facilitating the implementation of the new requirements for RPE and RPO in Member States and helps to ensure a consistent approach throughout the European Union.

The guidelines were also transferred to the Art.31 Group of Experts for comments (outside of the project objectives). These comments were recently received and integrated in an updated version of the document, which is published on the EUTERP website.

3. Conclusions

The project started in June 2014 and is foreseen to end 31 May 2018. The largest part of the objectives and pre-described actions are already met at this stage. In the coming year the project will concentrate on further developments in the frame of WP6 and on summarizing all results achieved and making them available in a sustainable way (via website and database) to the radiation protection E&T community.

With these achievements, ENETRAP III aims to increase the radiation protection and safety culture at the European level and beyond. It has also put forward the vast amount of advanced expertise available in Europe in the field of radiation protection E&T development and implementation.