

# ENETRAP: European Network on Education and Training in Radiological Protection

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## Abstract

Recent studies have shown that there is a wide variety of approaches to education and training of the Qualified Expert across the EU. As they stand, such differences are a barrier to the mutual recognition of the Qualified Expert status and, in part, are contributing to a perceived shortage in expertise in radiation protection and safety. The overall aim of ENETRAP is to determine mechanisms that in the longer term will facilitate better integration of education and training activities (with a view to mutual recognition across the EU) and to ensure the ongoing provision of the necessary competence and expertise at the level of the Qualified Expert.

## 1. Introduction

Occupational, public and environmental radiation protection is a major challenge in the industrial applications of ionizing radiation, both in the nuclear and non-nuclear domain, as well as in other areas such as the medical and the research area. As is the case with all nuclear expertise, there is a trend of a decreasing number of experts in radiation protection. Maintaining a high level of competencies in this field is crucial for (i) the future research and development of safe applications of ionizing radiation and (ii) the assurance of the protection of workers, the public and the environment.

In 2002, a survey was carried out on the situation of radiation protection experts (RPEs) in the Member and Candidate States of the European Union [1]. The survey covered all qualification aspects of RPEs, including:

- current definitions and other regulatory provisions and requirements;
- legal status;
- pre-educational requirements;
- duration of the education and training program.

The results of the survey revealed significant differences in the legislative approach to the issue of RPEs within the European Union along with a wide variety of systems for the underpinning education and training. However, the survey also highlighted considerable interest among Member States for better harmonization of education and training requirements in the different areas of radiation protection.

In a feasibility study [2], a number of recommendations were made during a workshop that was attended by most of the Member and Candidate States of the European Union. The feasibility study was intended to explore the possibilities of establishing a European Platform on Training and Education in Radiation Protection (EUTERP Platform), which could pre-eminently play a role in reaching consensus about an internationally agreed system of recognition of radiation protection experts. It was also recognized that all countries have developed their own education system over a long period of time and it would be impossible to strive to uniformity in the educational approach. Instead of that, and despite the diversity of education and training systems, harmonization should be

reached by evolution of internationally agreed common minimum criteria for the qualifications of the radiation protection expert. Recognition should not only be based on the initial education and training, but also on competence. The feasibility study showed, again, a wide interest in the EU Member and Candidate States to participate in such a Platform. More detailed information on several of the issues identified in the feasibility study is required if the EUTERP Platform is to have a sound basis. Therefore, in April 2005 the ENETRAP project has been launched in the 6<sup>th</sup> Framework Programme of the European Commission, specifically to address these issues.

The ENETRAP project aims at establishing a sustainable Education and Training (E&T) infrastructure for radiation protection as an essential component to combat the decline in expertise and to ensure the continuation of the high level of radiation protection knowledge. This infrastructure needs to offer both the initial training ("Education") and the unceasing maintenance of the level of competencies ("Training").

The main objectives of the ENETRAP project are:

- to better integrate existing education and training activities in the radiation protection infrastructure of the European countries in order to combat the decline in both student numbers and teaching institutions;
- to develop more harmonized approaches for education and training in radiation protection in Europe and their implementation;
- to better integrate the national resources and capacities for education and training;
- to provide the necessary competence and expertise for the continued safe use of radiation in industry, medicine and research.

It is the intention that these objectives are achieved via the establishment of a European-wide E&T network in radiation protection which will:

- assess training needs and capabilities;
- identify the potential users and their future involvement in order to insure the sustainability of the network;
- launch a consortium of universities with the aim of create an European Master in Radiation Protection;
- review the scientific contents of current E&T activities;
- explore the effectiveness of on-the-job training and identify options for additional programmes;
- propose recommendations for the recognition of courses and competencies of radiation protection experts;
- make recommendations for revising the current European Radiation Protection Course (ERPC) to include a system for credit points and modern educational tools, such as distance learning.

The main deliverables of the ENETRAP project are:

- comment on the status, value and appropriateness of current education and training initiatives within the EU;
- recommendation to EUTERP regarding the way forward with respect to (i) required developments in education and training resources to support the radiation protection expert, and (ii) establishing a system for mutual recognition of training and competencies;
- the delivery of a pilot session for a revised ERPC;
- a proposal for the establishment of a Universities Consortium.

## **2. Details of the project and current achievements**

The objectives of ENETRAP will be reached by a number of distinct activities, to be carried out in several work packages. With the aim of ensuring the sustainability of the network, the co-ordination, co-operation, follow-up and transfer of information have to be considered as a complementary task, to be carried out in a separate work package. This work package can be described as a managerial activity. To achieve the aims of the different co-ordination and managerial activities, the work programme for the ENETRAP network is divided in the following work packages:

WP1	Implementation and co-ordination of ENETRAP
WP2	Assessing the training needs and capabilities within the EU Member, the New Member States and the Candidate States
WP3	Recognition of competencies and diplomas

WP4	On-the-Job Training (OJT) programmes
WP5	New concepts and new tools for an ERPC
WP6	Comparison of the current ERPC syllabus with IAEA E&T modules and EU requirements
WP7	Validation of the results and recommendations for a pilot course
WP8	Establishment of a consortium of universities

WP1 deals with running the network and its work programme. In a first stage, a Steering Committee was implemented to take the decisions, to deal with the follow-up, to propose improvements and to organize the exchange of information. This Steering Committee is composed by one representative of each partner institute. Detailed information and follow-up of the ENETRAP work is possible through the project website: [www.sckcen.be/enetrap](http://www.sckcen.be/enetrap).

For WP2, information will be gathered from the various countries about the needs in specific areas of radiation protection, the audience concerned and the expected results. This includes an analysis regarding the human, organizational, structural and material needs.

WP3 needs input about the recognition criteria of the radiation protection expert in the various countries and requires an analysis of these criteria to establish recommendations for a common approach. To reach the objective, it is required to analyze the various levels and varieties of expert qualifications as published in the national legislation of the various countries, to compare the conditions for the recognition of the RPEs in each country as well as the complementary conditions dealing with the recognition of the training provided by other countries that the one where the demand for agreement is introduced. The results will also lead to establishing a file containing the institutions (and their respective fields of excellence) providing qualified training in radiological protection. Two sub tasks are planned in order to ensure the collection of the information (WP 3.1) and the production of the recommendations (WP 3.2).

For WP4 it will be necessary to define specific added value of the theoretical and the "On the Job" (OJT) training. This will require information on the capacities, in terms of subjects, number of places, timing, et cetera of the training providers and other organizations to welcome trainees and to examine the lessons learnt from the previous experiences related to the OJT. Sub task 4.1 will deal with the collection of information and sub task 4.2 will provide specific input for WP7.

WP 2, 3 and 4 need input from as many countries as possible, preferably from each of the EU Member States, the New Member States and the Applicant countries. The main instrument for getting the input is the distribution of a questionnaire to these countries [3], which was sent out in July 2005. First results are expected beginning of 2006. The results of these ENETRAP co-ordination activities are also relevant for achieving the aims of the European platform for education and training in radiological protection, to be set up by the end of 2005.

WP 5 and 6 are dealing with a revision of the European Radiation Protection Course (ERPC), with the aim of overcoming the current drawbacks.

In WP5, modern educational tools will be evaluated, such as distance learning. To this end, the feedback from the previous deliveries of the ERPC will be examined, with regard to its content and its methodology but also concerning its feasibility. In addition, a review will be carried out on the evolutions, approaches and methodologies aiming to provide education and training in radiation protection. Attention will be given to existing distance learning packages such as MARTIR (Multimedia and Audiovisual Radiation Protection Training in Interventional Radiology) and contacts established with the IAEA Inter Centre Network.

In WP6, a comparison is made between the content of the current ERPC with the requirements published by the EC [4] and other international organizations such as IAEA [5] in order to assure compliance with the European directives on vocational education and training. The deliverable report of this work package can be found on the project website [6].

In WP7, the results of the other WPs will be validated, with the aim to define recommendations for a revising the current ERPC and for preparing a pilot-run of one or two modules of the revised course. The results of WP3 and WP6 will be used to contribute to the validation, in order to find a common basis for recognition of the course in the various countries. This will result in recommendations for an

adapted, state-of-the-art, course which will reduce the costs for participation and make it more flexible to meet individual students and employers needs. It will lead to a course which empowers individuals to manage their own professional learning in a self determined manner. A pilot session will be given after having decided the topics covered by the pilot session and according to the three criteria: qualification, mutual recognition and mobility.

The aim of the WP8 is to prepare a proposal in order to establish a consortium of universities and training centers which should, with the support of the other contractors, create a European Master in Radiation Protection. The main deliverable of this work package is the completion of the Erasmus Universities Consortium (EUC) proposal to be introduced at the DG EDUC of the EC before the next milestone (March 2006).

### 3. Conclusion

In total 10 partners, 8 research centers and 2 universities, are joined in this project. It is our belief that the development of a common European radiation protection and safety culture and, based on that, the mutual recognition of radiation protection courses and the acquired competencies of radiation protection experts is a real need. The harmonization of E&T is a requisite starting point and will furthermore help and promote the mobility of workers and students throughout the European countries.

### References

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- [2] Initiation of the European Platform on Training and Education in Radiation Protection (EUTERP Platform); Final report, including the Proceedings of the workshop, 20-21 May 2004, CIEMAT, Madrid, NRG Report 21421/04.60160/P, October 2004, downloadable from [www.nrg-nl.com](http://www.nrg-nl.com).
- [3] See [www.sckcen.be/enetrap](http://www.sckcen.be/enetrap) under "documents"
- [4] Council Directive 96/29/Euratom and Communication from the Commission 98/C133/03 (downloadable from [www.sckcen.be/enetrap](http://www.sckcen.be/enetrap) under "documents")
- [5] IAEA Training Course Series No. 18 (downloadable from [www.sckcen.be/enetrap](http://www.sckcen.be/enetrap) under "documents")
- [6] See [www.sckcen.be/enetrap](http://www.sckcen.be/enetrap) under "documents"

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