ENETRAP

European Network on Education and Training in Radiological Protection

Project Questionnaire

Synopsis and Objectives

The European Commission is promoting better integration of education and training into occupational radiation protection infrastructures in the Member and Candidate States of the European Union. In addition to consolidating national radiation protection frameworks, it is hoped that such integration will also facilitate transnational access to vocational education and training infrastructures, promote harmonisation of the criteria and qualifications for and mutual recognition of Radiation Protection Experts, and remove obstacles for the mobility of these experts within the European Union.

BACKGROUND

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 programme.

The results of the survey revealed significant differences in the legislative approach to the issue of Radiation Protection Experts 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 harmonisation 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 recognised 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, harmonisation 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

[1] *European Commission. The Status of the Radiation Protection Expert in the EU Member States and Applicant Countries: Study on Education and Training in Radiation Protection. Radiation Protection, Issue Nº 133, 2003 (RP133).*

[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.*

States to participate in such a Platform. It is expected that this Platform will be established later this year.

CURRENT PROJECT

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, the ENETRAP project (European Network on Education and Training in Radiological Protection) has recently been launched in the 6th Framework Programme of the European Commission, specifically to address these issues.

The enclosed questionnaire represents the first phase of the ENETRAP project, the objective of this questionnaire being to elicit detailed information which will enable us to:

1. assess the actual training needs in the EU Member States and Candidate States;
2. understand the various regulatory aspects and consequently propose minimum requirements for mutual recognition of RPEs and RPOs;
3. collate details of the various training and education activities available in the EU Member and Candidate States, and
4. review the content, structure and methods of these training and education activities.

We recognise that the questionnaire is comprehensive and will require some time to complete. Nevertheless, we are sure that you acknowledge the importance of the subject and we are aware of your interest in these matters, since you might have been involved in one of the previous studies. Your opinion and comment is valued.

Ideally we would prefer one formal response from your country representing a collation of the data and information from all relevant sources. Of course you are free to circulate the questionnaire to colleagues, national bodies etc as you think necessary but please only return one completed questionnaire. If you think that you are not the most appropriate contact for us to correspond with on this matter please contact me (details below) so that we may establish an alternative contact.

Please send the completed questionnaire back to me by e-mail by October 31 at the latest. If you need more information about the questions or wish to discuss the issues in more detail, please do not hesitate to contact me. For more information on the ENETRAP project, please also visit http://www.sckcen.be/enetrap.

The ENETRAP consortium thanks you very much for your collaboration.

Yours sincerely,

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Glossary of Terms

"Radiation Protection Expert (RPE)"
The term Radiation Protection Expert (RPE) refers to the specific definition used in a country's law and may be more or less equal to the definition of the "Qualified Expert" in Council Directive 96/29/Euratom, or in the International Basic Safety Standards (Safety Series No. 115, IAEA, Vienna, 1996). That is:
"*An individual who, by virtue of certification by appropriate boards or societies, professional licenses or academic qualifications and experience, is duly recognized as having expertise in a relevant field of specialization, e.g. medical physics, radiation protection, occupational health, fire safety, quality assurance or any relevant engineering or safety speciality".*

"Radiation Protection Officer (RPO)"
An individual appointed by the registrant/licensee/employer to supervise or oversee the execution of practices. Defined in the IAEA international Basic Safety Standards as:
"*An individual technically competent in radiation protection matters relevant for a given type of practice who is designated by the registrant or licensee to oversee the application of the requirements of the standards*".

"Workers"
The term worker (or radiation worker) reflects the definition of "exposed" worker in Council Directive 96/29/Euratom:
"Persons either self-employed or working for an employer subject to exposures incurred at work… and liable to result in doses exceeding one or other of the dose levels equal to the dose limits for members of the public".

"Education"
Within the context of this project, "education" is defined as provision of the initial knowledge base, for example, as might be obtained from a degree or diploma course, post-graduate study etc.

"Training"
Within the context of this project, "training" is considered to be the provision of specific expertise and competencies relevant to radiation protection. Often complimentary and/or further to education.

"Training Schemes"
A series of linked training (or education + training) events.

"On-the-Job Training (OJT)"
On-the-Job Training (OJT) is a form of training in which the trainee works at a suitable environment where the facility or the infrastructure needed for the OJT is available, under the supervision of an experienced supervisor/expert (hands-on experience).

"Work Experience"
Time spent actively working within a specific practice gaining in-depth knowledge of the practice and experience in relevant radiation protection issues.

"E-Learning"
As defined by the Welsh Assembly Government as "*the use of electronic technology to support, enhance or deliver learning*". It can be presented on CD-ROM, over the Internet, intranet/extranet (LAN/WAN), audio and videotape, satellite broadcast, interactive TV, etc., or can be combined with traditional classroom instruction in a blended learning environment.

"Open and distance learning"
A means of providing learning opportunities that is characterised by the separation of teacher and learner in time and/or place. Open learning makes use of a variety of media (including printed and electronic material) to facilitate the interaction between learners and tutors.

Respondent details

Name:
Affiliation:
Address:

Country:
E-mail:
Telephone:
Fax:

Completion of the questionnaire:

☐ By yourself?
- ☐ Yes*
- ☐ Partly* (please specify below who else contributed an for which section A, B, C, D, E)
- ☐ No*

* Please tick appropriate box

☐ By other persons (please specify who and for which sections)

☐ We may wish to follow up on specific issues. It would be helpful if you could identify any additional contacts that you feel are relevant.

A. Numbers of Radiation Protection Experts (RPEs)

Objective:

To obtain quantitative numbers of RPEs currently working in each EU Member and Candidate State.

Questions:

A1. Please provide an indication of the number of RPEs currently working in your country. If you are unable to break the information down in to sectors of work, please just provide a "total" figure.

Sector of Work	Approximate Number of RPEs
1. Total Nuclear	**1. Total:**
a) Power production	☐ a)
b) Reprocessing	☐ b)
2. Total Medical	**2. Total:**
a) Diagnostic radiography	☐ a)
b) Radiotherapy	☐ b)
c) Nuclear Medicine	☐ c)
3. Total Industry	**3. Total:**
a) Industrial process gauges	☐ a)
b) Nuclear density gauges	☐ b)
c) Industrial irradiators	☐ c)
d) Industrial radiography	☐ d)
e) Recycling and scrap metal	☐ e)
f) Radioactive tracers	☐ f)
g) NORM/TENORM	☐ g)
4. Research/Teaching	**4. Total:**
a) Sealed sources	☐ a)
b) Unsealed radioactive materials	☐ b)
c) Radiation generators	☐ c)
5. Other	**5. Total:**
Total	

A2. The answer to A1 is (please tick appropriate box)

☐ Based on documented evidence.
Please indicate the source:

☐ Based on an estimated value.

A3. Is the total number of RPEs considered to be adequate at the present time?

☐ Yes
☐ No

Please comment on your response:

A4. Have all RPEs currently working within your country been trained and qualified within your country?

☐ Yes
☐ No
☐ Don't know

Please comment on your response:

B. Identification of practices

Objective:

To build up a picture of the degree of application of the various practices within EU Member and Candidate States. Such data should facilitate an assessment of "adequacy" of numbers of RPEs and radiation protection support in general, and identify where there may be a shortfall to support the practices within the country.

Questions:

B1. Please indicate which of the following practice/applications are undertaken within your country:

Nuclear
☐ Power production
☐ Fuel reprocessing

Medical
☐ Diagnostic radiography
☐ Radiotherapy
☐ Nuclear Medicine

Industry
☐ Industrial process gauges
☐ Nuclear density gauges
☐ Irradiators
☐ Radiography
☐ Recycling and scrap metal
☐ Radioactive tracers
☐ NORM/TENORM

Research/Teaching
☐ Sealed sources
☐ Unsealed radioactive materials
☐ Radiation generators

B2. Please identify anything you consider of relevance that is not in the above list.

B3. Are any changes/developments foreseen that could impact on radiation protection requirements? (e.g. impending change in legislation, introduction of new practices…)

B4. In the table below, please provide an indication of the total number of workers. If you are unable to break the data down into sectors of work, please provide an estimated total.

Sector of Work	Approximate Number of Radiation Workers
1. Total Nuclear	**1. Total:**
a) Power production	☐ a)
b) Reprocessing	☐ b)
2. Total Medical	**2. Total:**
a) Diagnostic radiography	☐ a)
b) Radiotherapy	☐ b)
c) Nuclear Medicine	☐ c)
3. Total Industry	**3. Total:**
a) Industrial process gauges	☐ a)
b) Nuclear density gauges	☐ b)
c) Industrial irradiators	☐ c)
d) Industrial radiography	☐ d)
e) Recycling and scrap metal	☐ e)
f) Radioactive tracers	☐ f)
g) NORM/TENORM	☐ g)
4. Research/Teaching	**4. Total:**
a) Sealed sources	☐ a)
b) Unsealed radioactive materials	☐ b)
c) Radiation generators	☐ c)
5. Other	**5. Total:**
Total	

B5. In the table below, please provide an indication of the number of registrants/licensees (employers) in your country.

Sector of Work	Number of Registrants/Licensees
1. Total Nuclear	**1. Total:**
a) Power production	☐ a)
b) Reprocessing	☐ b)
2. Total Medical	**2. Total:**
a) Diagnostic radiography	☐ a)
b) Radiotherapy	☐ b)
c) Nuclear Medicine	☐ c)
3. Total Industry	**3. Total:**
a) Industrial process gauges	☐ a)
b) Nuclear density gauges	☐ b)
c) Industrial irradiators	☐ c)
d) Industrial radiography	☐ d)
e) Recycling and scrap metal	☐ e)
f) Radioactive tracers	☐ f)
g) NORM/TENORM	☐ g)
4. Research/Teaching	**4. Total:**
a) Sealed sources	☐ a)
b) Unsealed radioactive materials	☐ b)
c) Radiation generators	☐ c)
5. Other	**5. Total:**
Total	

C. National Capabilities for Education and Training in Radiation Protection

Objective:

To make an assessment of whether or not the national capabilities for E&T in radiation protection a) fully support the national radiation protection requirements (at the RPE and RPO level) and b) are of any benefit in the support of radiation protection requirements in other countries.

Questions:

C1. Is the radiation protection education and training infrastructure in your country self-sustainable, or is it supported by other bodies (such as the IAEA) or other countries?

C2. Within your country are there any academic courses, i.e. degree, diplomas etc available where the focus of the qualification is “radiation protection” in general terms rather than in a supporting science? (For example, in the UK the University of Surrey offers an MSc in “Radiation and Environmental Protection “)

☐ Yes
Please provide details on the course:

☐ No

C3. Is successful completion of any of the academic courses identified in C2 a pre-requisite for the recognition of RPE?

☐ Yes
Please provide details:

☐ No

C4. Within your country are there any academic courses in radiation protection which are required basic education for certain professions (For example, for Medical Physicists, for Regulators...)?

☐ Yes
Please provide details:

☐ No

C5. Is successful completion of any of the courses identified in C2 sufficient for recognition as RPE or RPO?

☐ Yes
Please comment:

☐ No

C6. In general terms, is there a minimum level of basic education required for recognition of the RPE?

☐ Yes
Please provide details:

☐ No

C7. Please identify any training schemes specifically aimed at contributing to the initial professional development of the RPE. Include any detail that you think would be helpful.

C8. Do the schemes identified in C7 reflect the basic syllabus for Qualified Experts as specified in Communication 98/C 133/03 from the Commission, concerning the implementation of Council Directive 96/29/Euratom? Please tick the appropriate box.

☐ Yes, exactly
☐ Yes, in part
☐ No

Please comment on your response:

C9. Do the schemes identified in C7 reflect the Standard Syllabus of the Postgraduate Educational Course from the IAEA (IAEA Training Course Series No 18)? Please tick appropriate box.

☐ Yes, exactly
☐ Yes, in part
☐ No

Please comment on your response:

C10. Are there any training events that make use (either entirely or in part) of distant learning or e-learning tools?

☐ Yes
Please provide summary details; it would be helpful if you could identify contact persons for further discussions:

☐ No
☐ Not sure

C11. Are there any training events that make use (either entirely or in part) of On the Job Training (OJT)?

☐ Yes
Please provide summary details:

☐ No
☐ Not sure

C12. Specify which piece(s) of legislation provide the current legal basis for On the Job Training (OJT) and/or work experience. *Please provide a copy of the relevant text, preferably in English if available.*

C13. If the wording of the terms “on the job training” and “work experience” in the glossary does not reflect fully the definition in your national regulation, please comment.

C14. Are there different levels or classifications for OJT and/or work experience of radiation protection experts and/or RPO recognised in your country with regard to the complexity of the radiation applications in different areas, such as medicine, industry, research, nuclear fuel cycle etc?

☐ Yes
☐ No

C15. If the answer to C14 is “Yes”, please specify these different levels in terms of prior education, duration and content of the OJT and/or work experience, etc…. How is completion verified?

C16. Is there an assessment of the competency acquired during the OJT? Please tick the appropriate box.

☐ Yes – all cases:
☐ Yes – some cases:
☐ No

If "Yes" please comment on the assessment method(s). Is the objective of the assessment to test the knowledge or the job competency or to confirm if learning objectives have been achieved?

C17. Regarding OJT, do you have specific training providers such as research centres, power plants, hospitals, big industrial companies, and what are the capacities in terms of numbers of trainees and the possibility of providing OJT to trainees from other countries?

D. Regulatory Requirements

Objectives:

To build up a picture of the regulatory requirements for the training and qualification of RPEs, RPOs and exposed workers within the EU Member and Candidate States. Such a picture should facilitate the identification of any regulatory differences in the qualifications of such persons within the EU Member States and Candidate States.

Questions:

D1. Within your country is there legislation in place that requires certain persons to be suitably trained and qualified? If the answer to any of the specifications (RPE, RPO, Workers) is "Yes", please provide brief details, specifying any differences in requirements/qualifications (also per sector when appropriate). It would be helpful if you could provide the relevant regulatory text (English translation).

RPEs
☐ Yes:
☐ No

RPOs
☐ Yes:
☐ No

Radiation Workers
☐ Yes:
☐ No

D2. Does the definition of the Radiation Protection Expert in national legislation reflect the definition of the Qualified Expert, as defined in Council Directive 96/29/Euratom? Please tick appropriate box.

☐ Yes, exactly
☐ Yes, in part
☐ No

Please comment on your response:

D3. Do the provisions in the legislation relating to the RPE in your country reflect the provisions for education, training and recognition of the Qualified Expert, as specified in Communication 98/C 133/03 from the Commission, concerning the implementation of Council Directive 96/29/Euratom? Please tick appropriate box.

☐ Yes, exactly
☐ Yes, in part
☐ No

Please comment on your response; in particular specify conformities and differences:

D4. Is regulatory guidance available that specifies the minimum educational level, training (for example, syllabus, the duration and level of training, assessment of trainees), work experience and/or On-the-Job-Training (OJT) and personal attributes that should be demonstrated for the different categories as specified in question D1 and/or for the different sectors of work as specified in question B1?

☐ Yes
Please provide information on this guidance (in English):
☐ No

D5. If the recognition of RPE or RPO status is time limited in your country, is there legislation in place that specifies the duration and content of the education, training or OJT-activities necessary for keeping the recognition?

☐ Yes
Please provide details:
☐ No

D6. Is there a system(s) in place for the accreditation of
a) training providers?
b) training schemes?

☐ Yes
☐ No

If “Yes”, are records maintained of such accreditation by the regulatory body?

☐ Yes
☐ No

Please describe the system for both a) and b)

a)

b)

E. Recognition

Objective:

To build up a picture of the criteria for recognition of RPEs, RPOs and other workers, with the objective of finding a common denominator for mutual recognition of these persons.

Questions:

E1. Are there formal systems in place for the recognition of RPEs, RPOs or other workers in your country by national authorities or professional bodies?

RPE
☐ Yes:
☐ No

RPO
☐ Yes:
☐ No

Workers
☐ Yes:
☐ No

If "Yes" to any of the above please provide details.

E2. Is participation in the scheme(s) mandatory or voluntary?

☐ Mandatory
☐ Voluntary

E3. Please provide a brief description of the method of operation of the scheme(s) (include reference to any web-site, publications etc.).

E4. Is there a formal system in place for the recognition of RPEs, RPOs or other workers who are qualified (and are recognised) in other countries?

RPE
☐ Yes:
☐ No

RPO
☐ Yes:
☐ No

Workers
☐ Yes:
☐ No

If you have indicated "Yes" to any of the above, please specify the system(s) and the requirements for recognition in your country. Are there any additional assessments necessary (knowledge of national regulations, fluency in the national language, etc.)?

E5. Is the recognition of the RPE status in your country time limited?

☐ Yes (if Yes, go to E6)
☐ No (if no, go to E14)

E6. What is the period of validity of RPE recognition?

E7. Briefly outline the mechanism for re-recognition.

E8. With respect to E7 it would be helpful if you could answer the following specific questions:

1. Is the RPE required to seek re-recognition under the original scheme?
   ☐ Yes
   ☐ No
2. Is evidence of practical experience required?
   ☐ Yes
   ☐ No
3. Is evidence of practical experience on its own sufficient?
   ☐ Yes
   ☐ No
4. Is evidence of further and/or refresher or update training required?
   ☐ Yes
   ☐ No
5. Is evidence on OJT required?
   ☐ Yes
   ☐ No
6. Is evidence of training on its own sufficient?
   ☐ Yes
   ☐ No
7. Are there any differences in the mechanism for re-recognition between the sectors of work?
   ☐ Yes
   ☐ No

E9. Is the RPE required to take any action in order to maintain RPE status?

☐ Yes
Please provide details:
☐ No

E10. If the answer to Question E9 is “No”, or when ad-hoc decisions are taken, please specify the requirements that should be fulfilled for such persons to be recognised in your country.

E11. Taking into account your national policy on recognition of RPEs, RPOs and workers, what would be in your view the minimal requirements for mutual recognition of such persons within the European Union?

The ENETRAP consortium sincerely thanks you for all your interest and time to answer this questionnaire!

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