



Hheads of the European Radiological  
protection Competent Authorities

# HERCA Task Force on Education and Training on Radiation Protection

Articulation between the BSS requirements related to  
RPE/RPO

# About RPE

BSS requirements

Common understanding

Comments/ recommendation

# Definition RPE (article 4(73))

Article 4 (73) "**radiation protection expert**" means an individual or, if provided for in the national legislation, a group of individuals having the knowledge, training and experience needed to give radiation protection advice in order to ensure the effective protection of individuals, and whose competence in this respect is recognised by the competent authority;

Common understanding :

- The definition of the RPE provides the tools required for adequate radiation protection advice in order to ensure the effective protection of individuals.
- The “competence” of RPE (knowledge, training and experience) is defined at the national level ; the BSS directive does not state minimal requirements on this point.
- The competence is defined taking into account the different topics included in BSS, art 82. It can be shared by several persons within a group : i.e. in a group of RPEs, an individual can have the competence only on occupational exposure, another one on public exposure....

Comments/recommendation

- For the definition of competence, it is recommended as far as possible to follow ENETRAP guidance
- If tasks of the RPO are performed by an RPE, supervisory-specific competences are necessary : Is practise-specific knowledge required?

# Article 14.1 and 2 - General responsibilities for the education, training and provision of information

1. Member States shall establish an adequate legislative and administrative framework ensuring the provision of appropriate radiation protection education, training and information to all individuals whose tasks require specific competences in radiation protection. The provision of training and information shall be repeated at appropriate intervals and documented.
2. Member States shall ensure that arrangements are made for the establishment of education, training and retraining to allow **the recognition of radiation protection experts** and medical physics experts, as well as occupational health services and dosimetry services, in relation to the type of practice.

## Common understanding

- Provisions are needed in the national legislation and administrative framework to cover the education, the training and the retraining of RPE
- The level of education, the training and retraining programme of RPE are defined at the national level ; the BSS directive does not state minimal requirements on this point.

## Comments/recommendation

- For the definition of education level and training strategy, it is recommended as far as possible to follow ENETRAP guidance. Knowledge level of RPE is defined at the national level but in light of harmonisation European guidance is needed
- RPE training should be practice-related. Is it still possible to train RPE for all types of practices?

# Article 34 Consultations with a radiation protection expert (1)

Member States shall require undertakings **to seek advice from a radiation protection expert** within their areas of competence as outlined in Article 82, on the issues below that are relevant to the practice:

- (a) the examination and testing of protective devices and measuring instruments
- (b) prior critical review of plans for installations from the point of view of radiation protection;
- (c) the acceptance into service of new or modified radiation sources from the point of view of radiation protection;
- (d) regular checking of the effectiveness of protective devices and techniques;
- (e) regular calibration of measuring instruments and regular checking that they are serviceable and correctly used.

Common understanding :

- For occupational exposures, the advice from a RPE is mandatory on the issues (a), (b), (c), (d) and (e)
- The consultation of RPE is placed under the responsibility of the undertaking
- The RPE can be an employed from the undertaking or an outside expert (see also art 82)

# Article 34 Consultations with a radiation protection expert (2)

Member States shall require undertakings **to seek advice from a radiation protection expert** within their areas of competence as outlined in Article 82, on the issues below that are relevant to the practice:

- (a) the examination and testing of protective devices and measuring instruments
- (b) prior critical review of plans for installations from the point of view of radiation protection;
- (c) the acceptance into service of new or modified radiation sources from the point of view of radiation protection;
- (d) regular checking of the effectiveness of protective devices and techniques;
- (e) regular calibration of measuring instruments and regular checking that they are serviceable and correctly used.

Comments/recommendation:

- The identification of relevant issue depends of the practice, considering the nature of the equipment (radioactive sources or X Ray generators, sealed or unsealed sources) and the magnitude of potential exposures for workers (graded approach).
- The advices provided by RPE on the relevant issues have to be written and controllable ; it is recommended to include the process of consultation in the quality insurance system.
- It should be recommended to the undertakings to present the result of the consultations of RPE to the internal committee in charge of Health, Hygiene and Security.
- Question : how to ensure the “independency” of the “internal” RPE ?

# Article 34

- RPE provides advice to the level of the management
- Advice is not binding, but it is the responsibility of the undertaking to follow
- The advice must be given in a written and official form
- Independence: follow IRPA code of ethics
- The independence of RPE is a matter of culture and attitude and it doesn't need to be independent in terms of employment form the undertaking. It depends on the way the RPE functions are regulated (art 68)
- RPE must be on the same level as the management of the undertaking
- RPE is not reporting to the authority (role of the licensee)
- Define the areas of competence of RPE: which are the areas of competence?
- Recognition of RPE (not consensus):
  - (a) General competence
  - (b) Depending on the practice/activity

# Article 68 Tasks for the undertaking

Member States shall require the undertaking to carry out the following tasks:

- (a) achieve and maintain an optimal level of protection of members of the public;
- (b) accept into service adequate equipment and procedures for measuring and assessing exposure of members of the public and radioactive contamination of the environment;
- (c) check the effectiveness and maintenance of equipment as referred to in point (b) and ensure the regular calibration of measuring instruments;
- (d) seek advice from a radiation protection expert in the performance of the tasks referred to in points (a), (b) and (c).

Common understanding (idem art 32):

- For occupational exposures, the advice from a RPE is mandatory on the issues (a), (b) and (c)
- The consultation of RPE is placed under the responsibility of the undertaking
- The RPE can be an employed from the undertaking or an outside expert

Comments/recommendation (idem art 32):

- The identification of relevant issue depends of the practice, considering the nature of the equipment (radioactive sources or X Ray generators, sealed or unsealed sources) and the magnitude of potential exposures for the public (graded approach).
- The advices provided by RPE on the relevant issues have to be written and controllable ; it is recommended to include the process of consultation in the quality insurance system.
- Question : how to ensure the “independency” of the “internal” RPE ?



## Article 68

- QA system: quality manager and RPE report to the high level manager
- Incorporate within the Integrated Management System
- Independence of RPE (see art 34)

# Article 79 Recognition of services and experts

1. Member States shall ensure that arrangements are in place for the recognition of:  
(c) radiation protection experts;
2. Member States shall specify the recognition requirements and communicate them to the Commission.

## Common understanding:

- Provisions are needed in national legislation/regulation to define a recognition system dedicated to RPE and, if appropriate, to RPO.
- The choice of the recognition system is under the responsibility of MS, the BSS directive does not state minimal requirements on this point

## Comments/recommendation:

- The recognition system can be different according to the nature of the practice and the corresponding stakes, and to the staff and competence needed for radiation protection issues (“a nuclear power plant is not a X-Ray generator”)

## Comments:

- In order to facilitate recognition of RPE by Member States and based on ENETRAP guidance it should be helpful to come to consensus on the following items:
  - Type of academic disciplines suitable for educational requirements for RPE
  - Minimal requirements needed in the field of specific radiation protection training of RPE
  - Minimal requirements for professional experience needed for RPE (this might imply definition of minimal criteria depending on the nature of practice)
  - How to demonstrate knowledge of the country-specific legislation.

## Article 79

- Functions and roles in the countries vary. It is a bigger challenge to compare functions, roles and responsibilities than education and qualification
- Apply the graded approach

# Article 82 Radiation protection expert (1)

1. Member State shall ensure that the radiation protection expert gives competent advice to the undertaking on matters relating to compliance with applicable legal requirements, in respect of occupational and public exposure.
2. The advice of the radiation protection expert shall cover, where relevant, but not be limited to, the following:
  - (a) optimisation and establishment of appropriate dose constraints;
  - (b) plans for new installations and the acceptance into service of new or modified radiation sources in relation to any engineering controls, design features, safety features and warning devices relevant to radiation protection;
  - (c) categorisation of controlled and supervised areas;
  - (d) classification of workers;
  - (e) workplace and individual monitoring programmes and related personal dosimetry;
  - (f) appropriate radiation monitoring instrumentation;
  - (g) quality assurance;
  - (h) environmental monitoring programme;
  - (i) arrangements for radioactive waste management;
  - (j) arrangements for prevention of accidents and incidents;
  - (k) preparedness and response in emergency exposure situations;
  - (l) training and retraining programmes for exposed workers;
  - (m) investigation and analysis of accidents and incidents and appropriate remedial actions;
  - (n) employment conditions for pregnant and breastfeeding workers;
  - (o) preparation of appropriate documentation such as prior risk assessments and written procedures

## Common understanding:

- The competence fields for RPE are clearly identified.
- The issues for which advice can be provided by RPE to the undertaking depend of the nature of the practice.

# Article 82 Radiation protection expert (2)

1. Member State shall ensure that the radiation protection expert gives competent advice to the undertaking on matters relating to compliance with applicable legal requirements, in respect of occupational and public exposure.
2. The advice of the radiation protection expert shall cover, where relevant, but not be limited to, the following: (a) (b) (c) (d) ...(m) (n) (o)

## Comments/recommendation :

- It should be recommended to classify the relevant issues, considering the nature of the equipment (radioactive sources or X Ray generators, sealed or unsealed sources) and the magnitude of potential exposures for the workers and the public (graded approach)...*a classification could be recommended by HERCA*
- The training and retraining process of RPE should have to take into account the list of topics (a, b, c, ...) and the classification
- In addition with the advices requested by article 32 and 68, the other advices provided by RPE on the relevant issues have to be written and controllable ; it is recommended to include the process of consultation in the quality insurance system.
- It should be recommended to the undertakings to present the result of the consultations of RPE to the internal committee in charge of Health, Hygiene and Security.

# Article 82 RPE and MPE

3. The radiation protection expert shall, where appropriate, **liaise with the medical physics expert.**

Common understanding:

- This requirement is relevant for the optimization of occupational exposure and medical exposure in interventional radiology

Comments/recommendation :

- Practically, it could be recommended to the undertaking to appoint a MPE (or more) to also be a RPE, because of their high level of knowledge in the field of radiation physics

# Article 82 Other tasks for RPE

4. The **radiation protection expert** may be assigned, if provided for in national legislation, the tasks of radiation protection of workers and members of the public.

Common understanding:

- This requirement confirms the fact that RPE can be an employee from the undertaking, in charge of Radiation protection works
- He can also be a RPO (see art 84)

Comments:

- It should be defined which of the RPE tasks can be performed by an RPE employed by the undertaking and which need an RPE in an independent status.

## Article 82

- Independence of RPE (see art 34)
- An MPE could be an RPE but not an RPO
- RPE and RPO could be the same person (not optimal)
- RPE has responsibilities for the planned and unplanned exposure situations within the facility (emergency within the facility)



# About RPO



BSS requirements

Common understanding

Comments/ recommendation

# Article 14.3 - General responsibilities for the education, training and provision of information

3. Member States may make arrangements for the establishment of education, training and retraining to allow the recognition of radiation protection officers, if such recognition is provided for in national legislation.

## Common understanding

- Provisions are needed in the national legislation and administrative framework to cover the education, the training and the retraining of RPO, if such recognition is provided for in national legislation.
- The level of education, the training and retraining programme of RPO are defined at the national level ; the BSS directive does not state minimal requirements on this point.

## Comments/recommendation:

- Guidance is needed to judge if registration of specific types of RPO might be required

# Definition of RPO (article 4 (74))

Article 4 (74) "**radiation protection officer**" means an individual who is technically competent in radiation protection matters relevant for a given type of practice to supervise or perform the implementation of the radiation protection arrangements

## Article 84 Radiation Protection Officer (1)

1. Member States shall decide in which practices the designation of a radiation protection officer is necessary to supervise or to perform radiation protection tasks within an undertaking. Member States shall require undertakings to provide the radiation protection officers with the means necessary for them to carry out their tasks. The radiation protection officer shall report directly to the undertaking. Member States may require employers of outside workers to designate a radiation protection officer as necessary to supervise or perform relevant radiation protection tasks as they relate to the protection of their workers.
2. Depending on the nature of the practice, the tasks of the radiation protection officer in assisting the undertaking, may include the following:
  - (a) ensuring that work with radiation is carried out in accordance with the requirements of any specified procedures or local rules;
  - (b) supervise implementation of the programme for workplace monitoring;
  - (c) maintaining adequate records of all radiation sources;
  - (d) carrying out periodic assessments of the condition of the relevant safety and warning systems;
  - (f) supervise implementation of the health surveillance programme;
  - (g) providing new workers with an appropriate introduction to local rules and procedures;
  - (h) giving advice and comments on work plans;
  - (i) establishing work plans;
  - (j) providing reports to the local management;
  - (k) participating in the arrangements for prevention, preparedness and response for emergency exposure situations;
  - (l) information and training of exposed workers;

# Article 84 Radiation protection officer (2)

Common understanding:

- The RPO can either supervise or perform the implementation of the radiation protection arrangements himself (see art 84)
- The designation of RPO is not a mandatory requirement (flexibility)
- The competence fields for RPO are clearly identified and depends of the practice.

Comments/recommendation :

- For which practises the designation of a RPO might be necessary?
- How many different specialisations of RPO can be recognized?
- Harmonisation of learning outcomes is necessary to enable European exchange of RPO's

# Article 84.3 Radiation protection officer

3. The task of the radiation protection officer **may be carried out by a radiation protection unit established within an undertaking or by a radiation protection expert.**

Common understanding:

- This requirement confirms the fact that the RPO's tasks can be carried out by the RPE

Comments/recommendation :

- If the RPE performs RPO tasks, application and supervisory-specific knowledge must be warranted

## Article 84

- When an RPO is needed? Graded approach depending also on the authorization system?
- Combined practices/activities (eg radiography facility within an NPP?)

# Article 79.1 Recognition of RPO

If appropriate, Member States may establish the arrangements for the recognition of radiation protection officers

Common understanding: a recognition system for RPO can be defined at national level

Comments/recommendation :

- For some high-risk applications such as industrial radiography registration might be a requirement for the RPO

Comments/recommendation:

The basis of recognition criteria for RPO might be similar to RPE.

# Discussion topics

1. The role of the RPE focusing on its advisory component – Analysis of the concept of advice
  - Independence of RPE and RPO from undertaking
2. The difference in roles of RPE-RPO
  - Responsibilities in existing, planned and emergency exposure situations exposure considering public and occupational exposures
  - Relation with MPE for situations where all 3 exist in a facility
3. The concept of graded approach in roles and responsibilities of RPE/RPO in various sectors
4. The concept of graded approach in recognition of RPE / RPO
  - Qualifications
  - Adoption of the EQF System in E&T for RPE and RPO