IMPLEMENTATION OF THE RADIATION PROTECTION EXPERT AND RADIATION PROTECTION OFFICER FROM THE EUROPEAN BASIC SAFETY STANDARDS IN THE NETHERLANDS

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ABSTRACT

In the new European basic safety standards the roles and responsibilities of the national services and experts involved in radiation protection are clarified. Moreover, a clear distinction has been made between the different roles and responsibilities of these experts and services. The radiation protection expert and the radiation protection officer have been introduced in the European basic safety standards for this purpose. A comparison of the roles and responsibilities of the radiation protection expert and radiation protection officer laid down in the basic safety standards with those laid down in the Dutch Radiation Protection Decree for the Dutch experts reveals that they (partially) overlap. In the Dutch legislation three types of experts are recognized: the “general coordinating expert”, the “coordinating expert” and the “supervisory expert”. The Dutch coordinating expert is highly comparable with the radiation protection expert from the basic safety standards. The general coordinating expert has additional tasks. The implementation of the RPE in the Dutch radiation protection system is well advanced as shown by the learning outcomes and registration requirements for the (general) coordinating expert laid down in Dutch legislation. The Dutch supervisory expert is partially comparable with the radiation protection officer from the basic safety standards. However, the technical competence relevant for a given type of practice that is demanded in the basic safety standards for the radiation protection expert as well as the radiation protection officer is lacking at this moment. To comply herewith, the Dutch system of radiation protection needs to be modified. A first step towards modification is the development of application specific training for the supervisory expert, which will be renamed into supervisory officer radiation protection in our new decree. At this moment the branches are drafting learning outcomes for the new application specific training for the supervisory officer radiation protection in collaboration with the trainers. This is done for nine specific applications namely: 1) medical applications, 2) dentistry, 3) veterinary applications, 4) nuclear fuel cycles, 5) open sources, 6) NORM, 7) accelerators, 8) industrial radiography (including non-destructive testing, NDT and exploration research), 9) gauging techniques.

Introduction

In the new European basic safety standards (2013/59/Euratom; BSS) [EUR14] the roles and responsibilities of the national services and experts involved in radiation protection are clarified. In addition, a clear distinction has been made between the different roles and responsibilities of the services and experts without precluding that national frameworks allow the grouping of responsibilities or allow the assignment of responsibilities for specific technical and practical tasks in radiation protection to specified experts. For this purpose the radiation protection expert (RPE) and the radiation protection officer (RPO) have been introduced in this directive. Thereby implementing the suggestions of European training and education in radiation protection foundation (EUTERP) [EUT08] and of the article 31 Group of Experts to split the radiation protection expertise in an expert that gives competent advice in order to ensure the effective protection of individuals and an expert that supervises the practises and supervises or performs the implementation of the radiation protection arrangements. A comparison of the roles and responsibilities of the radiation protection expert and radiation protection officer laid down in the basic safety standards with those laid down in the Dutch Radiation Protection Decree for the Dutch experts is described in this article.

Radiation Protection Officer (RPO)

The Radiation Protection Officer (RPO) is according to the directive, 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. In the Dutch Radiation Protection Decree the “supervisory expert” is described as the expert that carries out a practise, or alternatively that a practise is carried out under supervision of the supervisory expert. A comparison with the tasks and responsibilities of the RPO of the directive reveals that the supervisory expert is partially compliant with the RPO. However, the technical competence relevant for a given type of practice that is demanded in the directive for the RPO is currently lacking in the Dutch legislation.

The role of the RPO is always similar, mainly supervising the work with ionizing radiation. The tasks and the responsibilities of the RPO, on the other hand, are depending on the application and its accompanying risk. The RPO must therefore possess a combination of technical competence and supervisory skills. To comply herewith, the Dutch system of radiation protection experts needs to be modified. A first step towards modification is the development of application specific training for the supervisory expert, which will be renamed into “supervisory officer radiation protection” in our new decree.

Application specific training for the Dutch RPO

At this moment the branches are drafting learning outcomes for the new application specific training for the supervisory officer radiation protection in collaboration with the trainers. This is done for nine specific applications namely: 1) medical applications, 2) dentistry, 3) veterinary applications, 4) nuclear fuel cycles, 5) open sources, 6) NORM, 7) accelerators, 8) industrial radiography (including non-destructive testing, NDT and exploration research), 9) gauging techniques. Each application specific training will consist of a basal module with both technical and supervisory elements followed by an additional module consisting of application-specific technical and supervisory elements as depicted in the Table below.

Table adapted Dutch educational system supervisory officer radiation protection (RPO)

Specialisation	**EQF level**	**Topics basal**	**Topics additional**
		Technical • Radiation physics and interaction with matter, dosimetry and detection, risks and effects **Supervisory** • General role and duties RPO, legislation, dose limits etc.	**Technical** • Technical knowledge, operation and maintenance, specific risks, shielding, measurement, storage, packing and transport, waste and discharges. **Supervisory** • Specific tasks RPO, specific legislation, licenses/reports, incidents,supervising.
medical applications	5/6	B5/6	MA
dentistry	4/5	B5	DE
veterinary applications	4/5	B5	VET
nuclear fuel cycles	6/7	B7	NFC
open sources	6	B6	OS
NORM industry	4/6	B6	NO
accelerators	4	B4	ACC
industrial radiography	5	B5	IR
gauging techniques	4	B4	GT

For each application specific training the learning outcomes will be incorporated in the Dutch Ministerial Rule basic safety standards radiation protection.

Radiation Protection Expert (RPE)

The Radiation Protection Expert (RPE) is according to the BSS directive 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. According to article 14 of the directive the training of the RPE needs to be in relation to the type of practice. In the Dutch legislation two types of experts are recognized: the “general coordinating expert” and the “coordinating expert”. According to the Dutch Radiation Protection Decree the coordinating expert ensures that practises with ionising radiation are performed within the legal framework. The coordinating expert must receive a radiation protection training from an accredited institution and must be registered in a special register. The general coordinating expert has additional tasks such as granting internal permission for practises. The Dutch coordinating expert is therefore highly comparable with the radiation protection expert from the basic safety standards. The general coordinating expert has additional tasks. The implementation of the RPE in the Dutch radiation protection system is well advanced as shown by the learning outcomes and registration requirements for the (general) coordinating expert laid down in Dutch legislation. However, the training of the (general) coordinating expert is currently broad and is deemed suitable for all applications. The technical competence relevant for a given type of practice that is demanded in the basic safety standards for the radiation protection expert is currently lacking. The (general) coordinating expert will be renamed radiation protection expert in our new decree. The Dutch education and training program for the radiation protection expert will therefore be adapted in the (near) future to become practise specific. The link with the radiation risk of the practise will also be taken into account to be able to also apply the graded approach in radiation protection knowledge.

Literature

[Eur14]

Euratom. Council directive 2013/59/EURATOM of 5 December 2013 laying down basic safety standards for protection against the dangers arising from exposure to ionising radiation. Published 17 January 2014.

[EUT08]

EUTERP. EUTERP Newsletter no.5, www.EUTERP.eu, December 2008.