

IMPLEMENTING THE EU BSS: IMPLICATIONS FOR THE SYSTEM OF EDUCATION AND TRAINING IN GERMANY

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ABSTRACT

Implementing the EU BSS will change the German legislation considerably. Concerning E&T two major facts will be important: First the implementation of the RPO and RPE has to be discussed presupposing that the proven German system should be preserved. Additionally, as a consequence of the implementation of the EU BSS, two important ordinances (Radiation Protection Ordinance and X-Ray Protection Ordinance) will be combined to one. This might have a major impact on E&T in Germany because the existing complex system of many different knowledge-groups might be harmonized and made clearer as well. This development has been presented the first time at the EUTERP workshop in Athens in 2015. In the meantime the national discussion of how to implement E&T in the revised system of legislation in Germany has been going on. In this presentation an update of the current state of this discussion concerning E&T in Germany will be presented and possible further developments will be discussed.

1. Introduction

The establishment of comprehensive radiation protection standards for different European countries was one of the main objectives of the revision of the European Basic Safety Standards. These revised European Basic Safety Standards [1] replace the former definition of a qualified expert by two more detailed definitions of persons responsible for RP, named Radiation Protection Officer (RPO) and Radiation Protection Expert (RPE).

The Radiation Protection Officer is defined in article 4 (81) of the revised EU BSS as *“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”*.

The definition of the Radiation Protection Expert is given in article 4 (79) of the revised EU BSS as

“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 recognized by the competent authority”.

By implementing the EU-BSS two major issues have to be considered. First, the definition of the RPO and RPE has to be implemented in the national legislation in line with the European Guidelines. Second, the identification of commonalities concerning RP with emphasis on E&T should be supported in order to foster the mutual recognition of different qualifications. However, different systems of RP that have been established and worked properly in different European Countries can not be expected to be changed easily. In this contribution, the national discussion in Germany concerning the implementation of the EU-BSS into national legislation and possible implementations concerning E&T in RP are presented.

2. The German system of RP organisation – strengths and weaknesses

Until today the organization of RP in Germany is regulated by the Ordinance on the Protection against Damage and Injuries Caused by Ionizing Radiation (Radiation Protection Ordinance) [2] and by the Ordinance on the Protection against Damage and Injuries Caused by X-Rays (X-Ray Protection Ordinance) [3] on the basis of the atomic energy law [4]. Requirements related to the organization of RP and related to the E&T in RP are regulated very similar in these both ordinances. Insofar as this is necessary to ensure radiation protection for the practice, the appropriate number of radiation protection commissioners (in German “Strahlenschutzbeauftragte”) for the control and surveillance of the practice in question shall be appointed in written form by the radiation employer. When a radiation protection commissioner is appointed, his functions, his in-plant authority and his authorization required for him to comply with his functions shall be defined in writing. In addition, the tasks and duties according to the responsibility of a radiation protection commissioner are described in detail in the ordinances. The competent authority shall be notified immediately about the appointment of the radiation protection commissioner, his functions and authorization, any alterations of his functions and authorization and his resignation from this position.

To ensure that a radiation protection commissioner can fulfill the tasks and duties his training and education has to be appropriate. For this reason the notification of appointment shall be accompanied by the certificate about the requisite qualification in radiation protection. The requisite qualification in radiation protection shall, as a rule, be acquired through a vocational training scheme suited for the respective area of application, practical experience and successful participation in courses recognized by the competent agency. The vocational training scheme shall be documented by reports, practical experience by supporting documents and successful participation in a course by a certificate. Further details concerning the requisite qualification in radiation protection are specified in different Directives. Because two different Ordinances concerning ionizing radiation have to be taken into account, these Directives distinguish between technical applications with radionuclides [5] or X-rays [6] and between medical applications again concerning the handling of radionuclides [7] or X-Rays in the medical sector [8].

Concerning the technical application of radiation protection except for some specialized workers in major institutions (like research institution, accelerator facilities or nuclear power plants) most of the radiation protection commissioners are only marginally concerned with radiation protection during their working hours. Therefore they cannot be considered as professional radiation protection experts. In that case the purpose of radiation protection courses is to train these employees in a way that ensures their competence in radiation protection especially for their specific application supported by their knowledge about the existing local conditions in their company. Hence a diversified system of many different radiation protection courses (more than 60 different courses) for a large amount of radiation protection commissioners has been established in Germany. This fact has been criticized many times in the past [9-11] On the other hand this diversified system is a direct consequence of the organization of RP in Germany and leads to a very tailor-made and application-based education and training system. Additionally each Radiation Protection Commissioner has to be appointed to the competent authorities. In that way a Radiation Protection Commissioner maybe seen as an RPE, trained sufficiently exactly for his application of ionizing radiation, even if an academic degree is missing.

3. A new law - opportunities and traps

As a consequence of the implementation of the EU BSS the German legislation concerning RP will be restructured completely. Although this process has not been finished yet, a new law is going to be established, the so called Radiation-Protection-law (German "Strahlenschutzgesetz"). Ordinances have to be revised, too, and most probably this process will lead to a fusion of the Radiation Protection Ordinance and the X-Ray Ordinance. Consequently, now existing Directives like [5] and [6] or [7] and [8] could be merged to at least two Directives: one for technical and one for medical applications. That in turn could lead to a fusion of different qualifications groups in order to make the German system of RP-courses more clearly and in order to decrease the number of different RP-courses. At the moment, combined courses are only destined for technical applications in the field of non-destructive testing and for teachers in public schools; for medical applications a basic course exists that covers both, X-ray applications and the use of radioactive materials in hospitals. Further combined courses could be possible e. g. for applications with external radiation only, like the handling of sealed sources and X-Ray-application in the technical field, if learning outcomes do not differ significantly. On the other hand, participants of these courses benefit only if the additional knowledge taught in a course is useful for them. Right now, it is under discussion whether a more clearly arranged course system justifies to blur the tailor-made and application-based approach now established in RP-courses.

Additionally some new applications have to be integrated in the German system of E&T in RP. New qualification groups have to be established for RPEs in the field of

1. handling of Naturally Occurring Radioactive Material (NORM),
2. exposure due to cosmic radiation in aircrafts and
3. transport of radioactive material.

Requirements for the necessary vocational training, the practical experience and content and duration of RP-courses are under discussion right now.

4. Outlook

In the new German Radiation Protection law applications concerning radioactive sources, accelerators and X-rays will be distinguished between existing, planned and emergency exposure situations only. For that reason today (April 2017) the two major German Ordinances concerning Radiation Protection for Ionizing Radiation, [2] and [3], will be merged to one Ordinance with the consequence that the number of qualification groups may decrease, too. On the other hand, the very good experiences made with the implementation of RP in Germany, based on a very use-oriented system, leads to the firm conviction that this tailor-made system of E&T has to be preserved. The final results of this discussion are not clear yet and the development of the German system of E&T in RP, described in Ordinances and Guidelines, will take some more months or years. Apart from that other European Countries might see the advantages of an application-based approach and might adapt their system in order to foster the mutual recognition of different qualification in RP.

5. References

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