

Comments on the General IAEA Safety Requirements - Part 3 - and Suggestions for the Next Publications

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Abstract. The international recommendations in question are described 52 requirements specified from chapter 2 to 5. The first chapter states that the number of fundamental safety principles has been increased from 3 to 10. To implement these requirements, the IAEA mentions 14 main parties but it is not clear which party is responsible for each of the fundamental safety principles. Chapter 2 presents 5 general requirements for protection and safety and makes it clear the responsibilities and competence of the government and regulatory body. ; but the responsibilities and competence of the other 12 principal parties reported in requirement 4 are not clear. Chapter 3, which includes 37 requirements, is the most extensive and deals with planned exposure situations. Due to its extension, chapter 3 is left for a future paper, in case my comments are considered of some value by the principal parties involved. Chapter 4, with 4 requirements, deals with emergency exposure situations; and in chapter 5, the 6 requirements are about existing exposure situations. As to the requirements exposed in chapters 1, 2, 4 and 5 I have verified that the responsibilities and competence of the government and the regulatory body are clearly specified, which is not true for the other 12 principal parties. It is concerning this specific matter that I have made comments and suggestions. I also discuss the matters that are not under the responsibility of the radiological protection services but of other parties. Could the radiation protection service as a whole or in part be delegated to others, including the attributions of registrants or licensees?

KEYWORDS: *IAEA International Recommendations, Radiation Protection Requirements.*

1 INTRODUCTION

Chapter 1.

In this chapter the IAEA establishes 10 safety principles that are considered fundamentals – conversely, the ICRP mentions only 3. The IAEA also says that the 3 ICRP principles were separated into 4 by the Agency.

Some of these 10 principles are not very clear as to who is the responsible for developing and implementing them, as it is shown below.

Principle 1: Responsibility for safety

According to the IAEA, the prime responsibility for safety must rest with the person or organization responsible for facilities and activities that give rise to radiation risks. I believe it is in charge of the registrants and licensees.

It also mentions some other parties, but it looks rather as an example than all the possible interested parties given in requirement 4.

Principle 2: Role of government

This chapter is quite clear and suggests the formation of an independent regulatory body.

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In relation to radon in dwellings, the Argentine's Basic Radiological Safety Standard, AR 10.1.1 rev 3 [1] establishes a radon gas action level of 400 Bq / m³ above which, actions must be taken. Currently the ARN is in the process of reviewing and updating its standards. This includes radon and is oriented to a value of 300 Bq/m³ equivalent to approximately, 10 mSv/y, according to the new recommendations of IAEA and ICRP [5, 6].

Also ARN has performed radon measurements related with nuclear fuel cycle activities. These are considered planned exposure situations and therefore dose limit for workers apply. Standard AR 10.1.1 establishes in this sense that the limit for workers exposed to Rn-222 is 4 Working Level Months in one year [1].

For both radon exposures (residential and occupational) the impact of future changes of radon dose conversion factor has to be assessed.

3 CHALLENGES AND OBJECTIVES

The main challenges expected to be achieved at the end of the RLA9075 project in occupational radiation protection are the following [7]:

- (a) Ensuring radiological protection of workers in medical and industrial applications.
- (b) Achieve recognition of the technical competence of dosimetry services.

The general objectives to be achieved during the RLA9075 project in occupational radiation protection are the following [7]:

1. Establish occupational radiation protection programs for end users including optimization and safety culture.
2. Strengthen dosimetry services, individual and area monitoring, and calibration services.

Regarding these general objectives, they were proposed specific objectives related to four topics that were identified of interest among the ARN's controlled installations. The specific objectives were oriented to achieve the optimization of protection program and promotion of safety culture in nuclear medicine, in industrial application, in NORM and radon and strengthening monitoring services. These specific objectives are:

- a. Strengthening capabilities for surveillance of occupational internal exposure in Nuclear Medicine Centres (NMCs).
- b. Achieve the improvement of prior risk assessment in industrial applications.
- c. Providing training to stakeholders related to NORM and radon.
- d. Ensuring the quality of measurements and assessments provided by dosimetry services.

4 ACTION PLAN AND ITS PROGRESS

Activities were proposed with the aim to achieve the optimization of protection program and promotion of safety culture in nuclear medicine, in industrial application, in NORM and radon and for strengthening of monitoring services. These activities were grouped by each topic and are shown in the Figures 1, 2, 3 and 4 with their respective outputs and progress.

Figure 1: Action plan in nuclear medicine, outputs and progress