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Nuclear energy, nuclear technologies, and radiological protection — Vocabulary —

Part 2: Radiological protection

Énergie nucléaire, technologies nucléaires et protection radiologique — Vocabulaire —

Partie 2: Radioprotection

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Contents

Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 85, *Nuclear energy, nuclear technologies, and radiological protection.*

This second edition cancels and replaces the first edition (ISO 12749-2:2013), which has been technically revised.

The main changes are as follows:

— Merging of the headings “Terms related to radiological monitoring” and “Terms related to measurement”.

— Addition of the heading “Terms related to emergency”.

A list of all parts in the ISO 12749 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This document will provide terms and definitions for general nuclear energy concepts dealing with radiological protection and other related concepts. These concepts include protection for human health and the environment; radiation measurement methods and instruments; and the prevision or direct determination of the effect of ionizing radiation on the body.

Terminological data are taken from ISO standards developed and revised by ISO/TC 85/SC 2 and other technically validated documents such as the IAEA Basic Safety Standards, ISO/IEC 80000-10, ICRP, ICRU 51, ICRU 85a, VIM and BIPM.

Unambiguous communication of radiological protection concepts is crucial taking into account the relevant implications that may arise from misunderstandings with regard to equipment and materials involved in the standards dealing with this subject. The market of radiological protection is a heterogeneous one because it comprises equipment designed, built and operated along the safe practices defined by the radiological protection specialists. This market also includes nuclear reactors, nuclear fuel cycle, cosmic radiation, scientific research industrial applications, nuclear medicine and radiotherapy, and instruments to monitor both personnel and facilities and sites. In view of the foregoing, and the large number of people involved who have different levels of scientific and technical knowledge, there can be widely divergent understandings and assumptions about concepts. The results are poor communication, high risk of accidents and duplication of effort as different groups are going to define concepts according to their perspectives.

Conceptual arrangement of terms and definitions is based on concepts systems that show corresponding relationships among radiological protection concepts. In Annex A there is a detailed explanation of this subject. Such arrangement provides users with a structured view of this special sub domain within the nuclear energy sector and will facilitate common understanding of radiological protection concepts. Besides, concepts systems and conceptual arrangement of terminological data will be helpful to any kind of user because it will promote clear, accurate and useful communication. At the end of this document an alphabetical index shows the terms followed by their corresponding notation.