



NSAI
Standards

Irish Standard
I.S. EN ISO 20553:2017

Radiation protection - Monitoring of workers occupationally exposed to a risk of internal contamination with radioactive material (ISO 20553:2006)

I.S. EN ISO 20553:2017

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National Foreword

I.S. EN ISO 20553:2017 is the adopted Irish version of the European Document EN ISO 20553:2017, Radiation protection - Monitoring of workers occupationally exposed to a risk of internal contamination with radioactive material (ISO 20553:2006)

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EUROPEAN STANDARD

EN ISO 20553

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2017

ICS 13.280

English Version

**Radiation protection - Monitoring of workers
occupationally exposed to a risk of internal contamination
with radioactive material (ISO 20553:2006)**

Radioprotection - Surveillance professionnelle des
travailleurs exposés à un risque de contamination
interne par des matériaux radioactifs (ISO
20553:2006)

This European Standard was approved by CEN on 13 September 2017.

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EN ISO 20553:2017 (E)

Contents	Page
European foreword.....	3

European foreword

The text of ISO 20553:2006 has been prepared by Technical Committee ISO/TC 85 “Nuclear energy, nuclear technologies, and radiological protection” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 20553:2017 by Technical Committee CEN/TC 430 “Nuclear energy, nuclear technologies, and radiological protection” the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by April 2018, and conflicting national standards shall be withdrawn at the latest by April 2018.

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Endorsement notice

The text of ISO 20553:2006 has been approved by CEN as EN ISO 20553:2017 without any modification.

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INTERNATIONAL STANDARD

ISO
20553

First edition
2006-04-15

Radiation protection — Monitoring of workers occupationally exposed to a risk of internal contamination with radioactive material

*Radioprotection — Surveillance professionnelle des travailleurs
exposés à un risque de contamination interne par des matériaux
radioactifs*



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Contents

Page

Foreword.....	iv
Introduction	v
1 Scope	1
2 Normative references	2
3 Terms and definitions.....	2
3.1 Absorption types	2
4 Symbols and abbreviated terms	6
5 Purpose and need for monitoring programmes	6
6 Reference levels.....	8
7 Routine monitoring programmes	9
7.1 General aspects	9
7.2 Workplace monitoring	10
7.3 Individual monitoring	10
7.4 Methods and time intervals	11
8 Special monitoring programmes.....	14
8.1 General aspects	14
8.2 Workplace monitoring	14
8.3 Individual monitoring	15
9 Task-related monitoring programmes	17
9.1 General aspects	17
9.2 Workplace monitoring	17
9.3 Individual monitoring	17
10 Special cases of individual monitoring	18
10.1 Actinides.....	18
10.2 Contamination in wounds.....	18
10.3 Contamination on the skin.....	18
11 Recording, documentation and reporting	18
11.1 Recording and documentation	18
11.2 Reporting	20
12 Quality management.....	20
Bibliography	22

ISO 20553:2006(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 20553 was prepared by Technical Committee ISO/TC 85, *Nuclear energy*, Subcommittee SC 2, *Radiation protection*.

Introduction

In the course of employment, individuals might work with radioactive materials that, under certain circumstances, could be taken into the body. Protecting workers against risks of incorporated radionuclides requires the monitoring of potential intakes and/or the quantification of actual intakes and exposures. The selection of measures and programmes for this purpose requires decisions concerning methods, techniques, frequencies etc. for measurements and dose assessment. The criteria permitting the evaluation of the necessity of such a monitoring programme or for the selection of methods and frequencies of monitoring usually depend upon the legislation, the purpose of the radiation protection programme, the probabilities of potential radionuclide intakes, and the characteristics of the materials handled.

This International Standard offers guidance for the decision whether a monitoring programme is required and how it should be designed. Its intention is to optimise the efforts for such a monitoring programme consistent with legal requirements and with the purpose of the radiation protection programme. Recommendations of international expert bodies and international experience with the practical application of these recommendations in radiation protection programmes have been considered in the development of this International Standard. Its application facilitates the exchanges of information between authorities, supervisory institutions and employers. The International Standard is not a substitute for legal requirements.

In the International Standard, the word “shall” is used to denote a requirement and no deviation is allowed. The word “should” is used to denote a recommendation from which justified deviations are allowed. The word “may” is used to denote permission.

Radiation protection — Monitoring of workers occupationally exposed to a risk of internal contamination with radioactive material

1 Scope

This International Standard specifies the minimum requirements for the design of professional programmes to monitor workers exposed to the risk of internal contamination by radioactive substances and establishes principles for the development of compatible goals and requirements for monitoring programmes.

This International Standard addresses the

- a) purposes of monitoring and of monitoring programmes;
- b) description of the different categories of monitoring programmes;
- c) quantitative criteria for conducting monitoring programmes;
- d) suitable methods for monitoring and criteria for their selection;
- e) information that has to be collected for the design of a monitoring programme;
- f) general requirements for monitoring programmes (e.g. detection limits, tolerated uncertainties);
- g) frequencies of measurements;
- h) special cases;
- i) quality assurance; and
- j) documentation, reporting, record-keeping.

This International Standard does not address

- the monitoring of exposure to radon and its radioactive decay products;
- detailed descriptions of measuring methods and techniques;
- detailed procedures for *in vivo* measurements and *in vitro* analyses;
- interpretation of monitoring results in terms of doses;
- biokinetic data and mathematical models for converting measured activities into absorbed dose, equivalent dose and effective dose; or
- the investigation of the causes or implications of an exposure or intake.

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