



**International  
Standard**

**ISO 15382**

**Radiological protection —  
Procedures for monitoring the dose  
to the lens of the eye, the skin and  
the extremities**

*Radioprotection — Procédures pour la surveillance des doses au  
cristallin, à la peau et aux extrémités*

**Third edition  
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CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

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## 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.

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 document 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](http://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*, Subcommittee SC 2, *Radiological protection*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 430, *Nuclear energy, nuclear technologies, and radiological protection*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 15382:2015), which has been technically revised. [standards.iteh.ai/catalog/standards/iso/3dc403fb-d1bc-44c3-9b95-44c9f7d4b393/iso-15382-2025](https://standards.iteh.ai/catalog/standards/iso/3dc403fb-d1bc-44c3-9b95-44c9f7d4b393/iso-15382-2025)

The main changes are as follows:

- addition of neutron radiation;
- reference to up-to-date standards on reference radiation fields;
- clarification and extension of several procedures;
- extension of dosimetry procedures at nuclear power plants including indirect eye lens dosimetry.

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](http://www.iso.org/members.html).

## Introduction

The human body shall be protected from harmful effects of exposure to ionizing radiation, internally and externally. Effective dose limits keep the occurrence of stochastic effects to an “acceptable” level, while protection from tissue reactions (i.e. deterministic effects) is provided by dose limits for specific organs. The human skin shall be protected from external tissue reactions, such as erythema and ulceration. For the lens of the eye, there is the risk of radiation induced cataract at elevated exposures. To protect the skin of the whole body, the extremities, and the lens of the eye, separate dose limits are recommended by the International Commission on Radiological Protection (ICRP). These separate dose limits are needed because, in case of localized exposures, the equivalent doses to the skin and the lens of the eye could exceed these limits even if the effective doses were lower than the limit. Specific dosimetry is needed to monitor these doses and to assess compliance with applicable limits.

There are some situations where the correct assessment of the exposure of the skin, extremities, and lens of the eye can be challenging. In the nuclear sector, there can be exposure due to weakly penetrating radiation caused by unshielded unsealed radioactive sources, or by working in glove boxes. These types of exposure can occur, in particular in connection with contamination. Exposure to weakly penetrating radiation from radioactive noble gases in room air also shall be considered. In the medical field, doses to extremities and doses to the lens of the eye could occur during interventional procedures and in nuclear medicine.

Monitoring the extremities and the lens of the eye is not always straightforward, and many practical problems can arise for the application of monitoring in the workplace, due to issues such as geometry, resulting in an unsuitable monitoring situation. This document provides guidance on how and when this monitoring should be done, for all the different types of workplace fields. This document is directed to all who are involved in the dosimetry of the skin, extremities, and the lens of the eye; for example: radiation protection officers, regulators, workers, dosimetry services, etc.

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