ISO/TC 85/SC 2 “Radiological Protection”

https://www.iso.org

Update Report

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Radiation Safety Standards Committee (RASSC)
2026_06_25



About ISO

The International Organization for Standardization (ISO) is an independent, non-governmental international organization. Through its membership of 177 national standards bodies, it brings global experts together to agree on the best ways of doing things – for anything from making a product to managing a process.

ISO has enabled trade and cooperation between people and companies all over the world since 1946. The International Standards published by ISO serve to make lives easier, safer and better.

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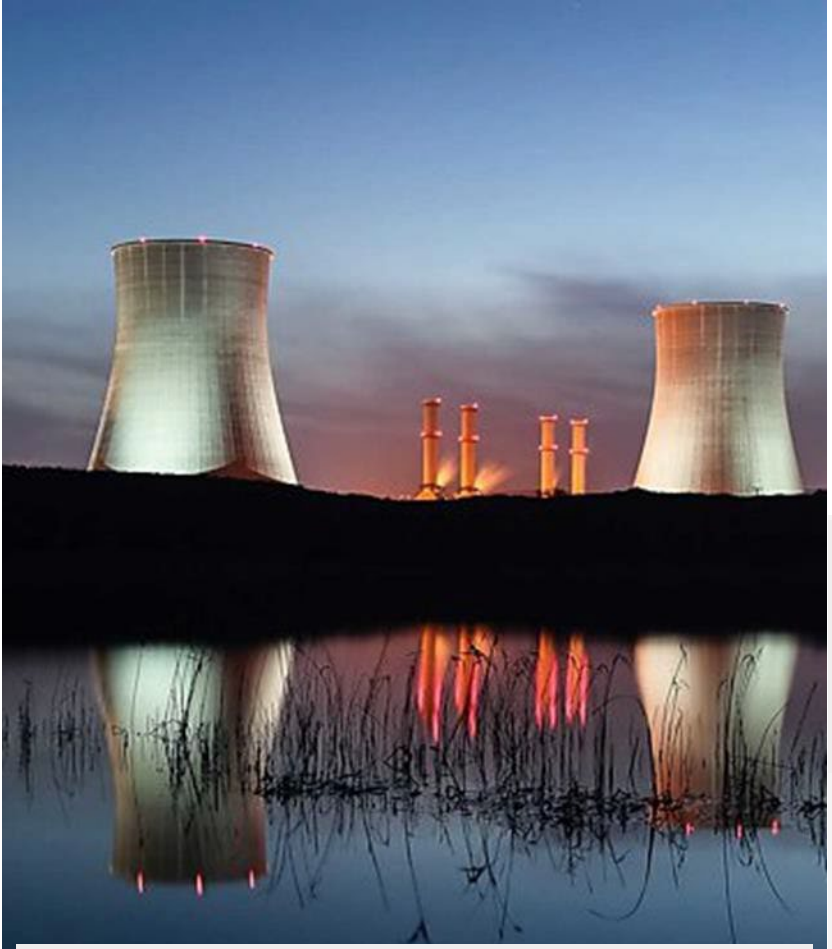
International Standards and other deliverables covering almost all aspects of technology, management and manufacturing.

177

Members representing ISO in their country. There is only one member per country.

834

Technical committees and subcommittees to take care of standards development.



TECHNICAL COMMITTEES

ISO/TC 85

Nuclear energy, nuclear technologies, and radiological protection

About

Secretariat: AFNOR (France)

Committee Manager: MME Nathalie GESLIN

Chairperson (until end 2027): M Olivier MARCHAND

ISO Technical Programme Manager [TPM]:
Mrs Kirsi Silander-van Hunen

ISO Editorial Manager [EM]: M Vincenzo Bazzucchi

Creation date: 1956

Scope

Standardization in the field of peaceful applications of nuclear energy, nuclear technologies and in the field of the protection of individuals and the environment against all sources of ionising radiations.

255

Published ISO standards *

of which 11 under the direct responsibility of ISO/TC 85

66

ISO standards under development *

of which 4 under the direct responsibility of ISO/TC 85

* number includes updates

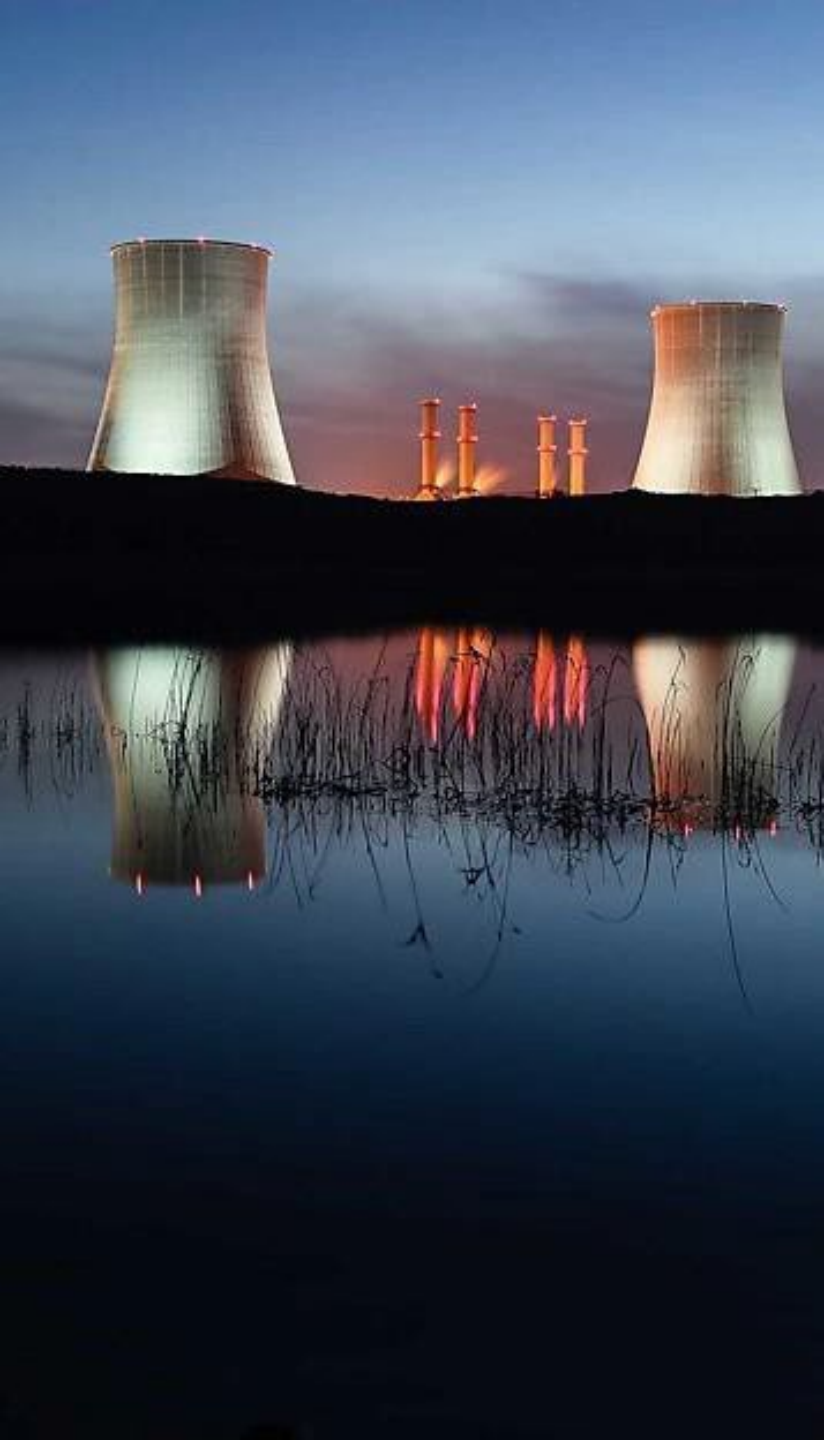
27

Participating members

21

Observing members

(2025: Mongolia changed from O-P, Uzbekistan new O-member)



Collaboration with IAEA

In 1981 a Memorandum of Understanding (MoU) was signed between the IAEA and ISO to set out guidelines for their cooperation and regular consultation in the development of international standards that will ensure nuclear technology provides its indispensable benefits to the world in a safe and secure manner.

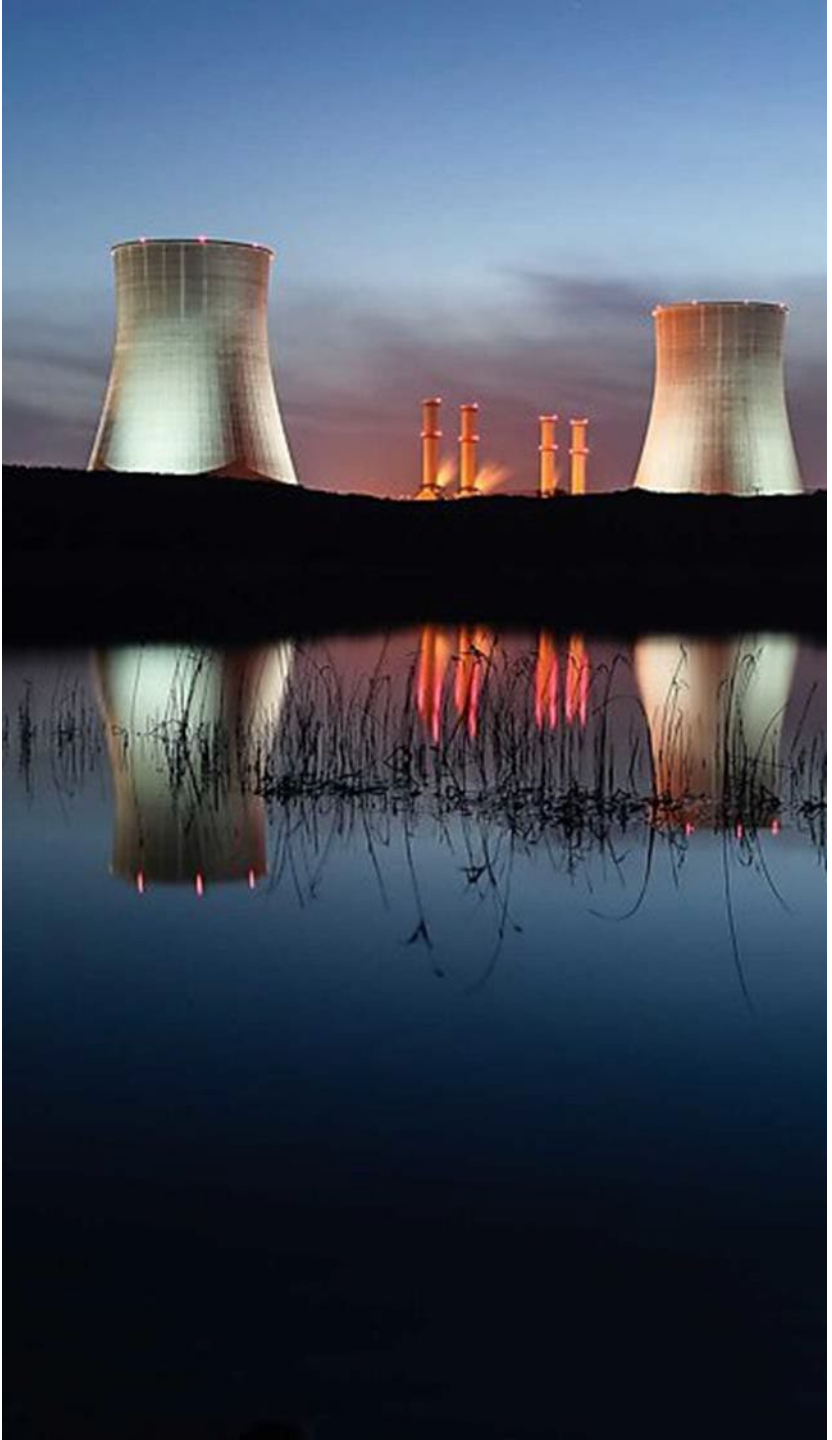
- the appointment of liaison officers from both organizations
- practical procedures for implementing the collaboration since 2022
  - exchange of information and participation in each other's open relevant meetings, workshops and seminars of common interest
  - exchange of unclassified information, including publications, databases, websites and sharepoints
  - sharing of experiences and best practices
  - technical support in the development and review of relevant IAEA publications, databases and other internet-available information
  - technical support in the development and review of relevant ISO standards
- Pilot phase on commenting IAEA documents in 2023

ISO/TC 85

Nuclear energy, nuclear technologies, and radiological protection

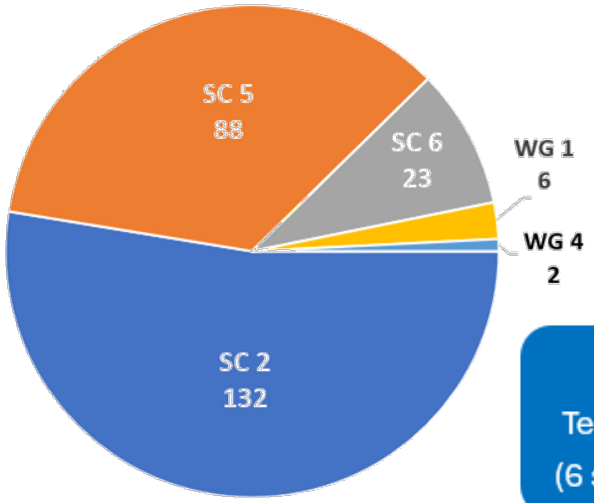
Items of note:

- Following a proposal from China (SAC) on creating a new Sub-Committee (SC) for Nuclear Fusion Technology, ISO/TC 85 dedicated CAG meetings for this topic on 6/26/25 and 1/30/26
  - Germany (DIN) and China drafted Terms of Reference and ISO/TC 85 organized a ballot on establishment of a new ad hoc group (AHG 2) by the end of 2025
  - AHG 2 recommended the new subcommittee with the title of “Fusion Technology” and the Scope “Standardization focusing on test methods, design, construction, commissioning, operation and decommissioning in the field of fusion technology, with a particular focus on tritium technologies and thermomechanically and neutron-highly stressed materials”
  - A 2-stage approval procedure was initiated: 1. Approval by ISO/TC 85 for the creation of a new Subcommittee; 2. Ratification by the ISO/TMB and allocation of the secretariat. A committee internal ballot (CIB) ran from 3/3/26 to 5/27/26.
    - The vote was 16 in favor of approving the new subcommittee, 2 opposed (Argentina and Japan), and 9 abstentions. 15 countries (including Argentina and Japan) indicated they wanted to be P-members; 4 requested O-membership
    - The next step will be to meet on 6/24/2026 to prepare a resolution for approval by ISO/TC 85, with a view to submitting the proposal to the ISO/TMB for ratification, including both a title and a well-defined defined scope
- In October 2024, Korea presented a proposal on “Decommissioning of Nuclear Power Reactors,” divided into 10 parts
  - A dedicated ISO/TC 85 CAG meeting for this topic was held 6/26/25
  - The CAG recommended allocating the development of decommissioning standards to SC 5/WG 13 and to organize a dedicated meeting convened by SC 5/WG 13, including representatives of SC 6 (likely WG 3), and SC 2 (likely WG 23) during the SC 5-SC 6 meetings week in September 2025 in Paris, in order to exchange on this topic with all expertise needed
- Next meetings of ISO/TC 85, SC 2, SC 5, SC 6 and Working Groups: 17-21 August 2026, Birmingham, Alabama, USA



ISO/TC 85, its SCs & WGs

Nuclear energy, nuclear technologies, & radiological protection



ISO/TC 85
(255 standards)

Chair's Advisory Group

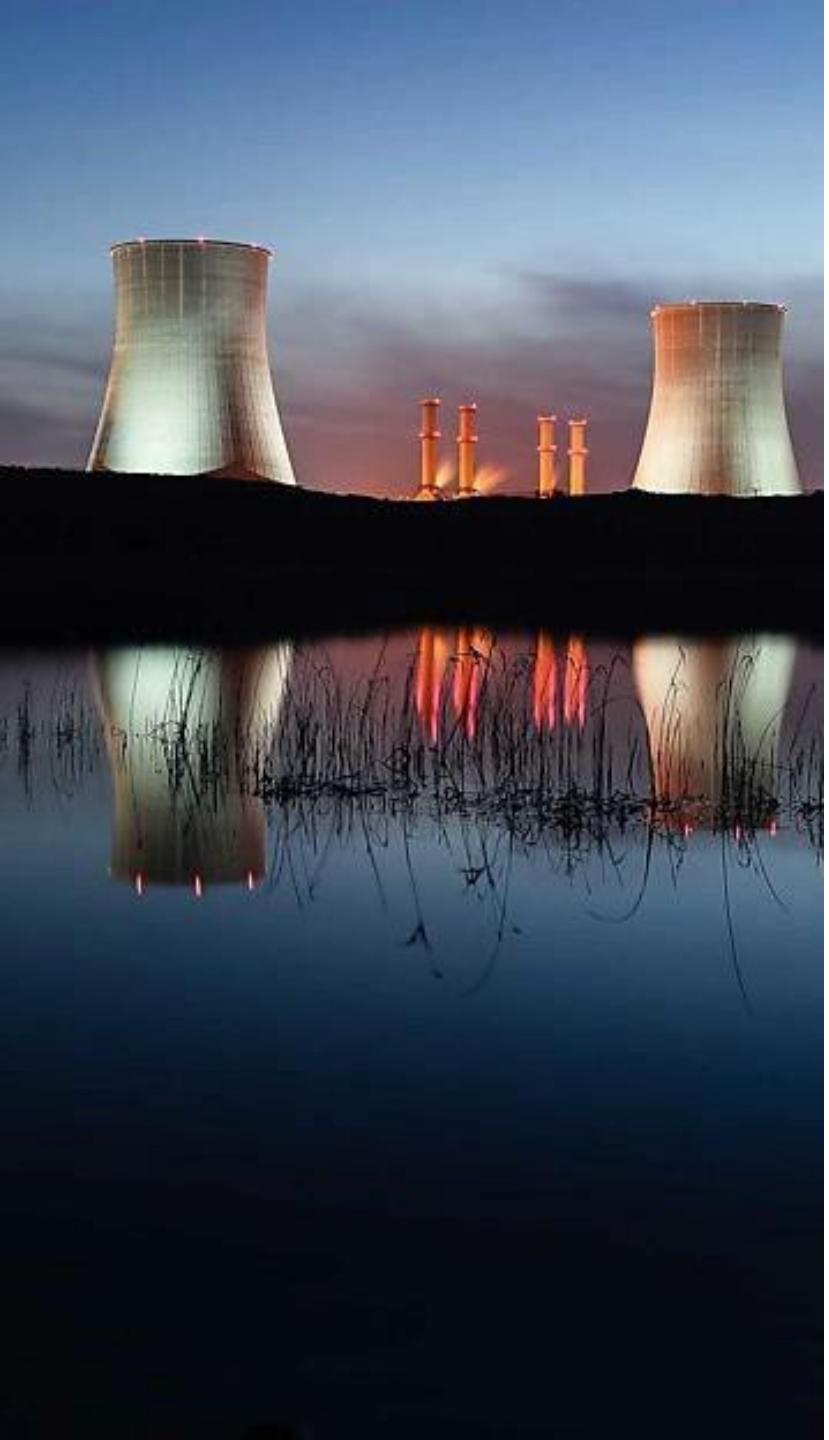
WG 1
Terminology
(6 standards)

WG 4
Integrated management systems in nuclear and radiological domains

SC 2
Radiological protection
(133 standards)
11 working groups

SC 5
Nuclear installations, processes and technologies
(88 standards)
5 working groups

SC 6
Reactor technology
(23 standards)
3 working groups



ISO/TC 85

ISO/TC 85/SC 2

Radiological protection

Its scope

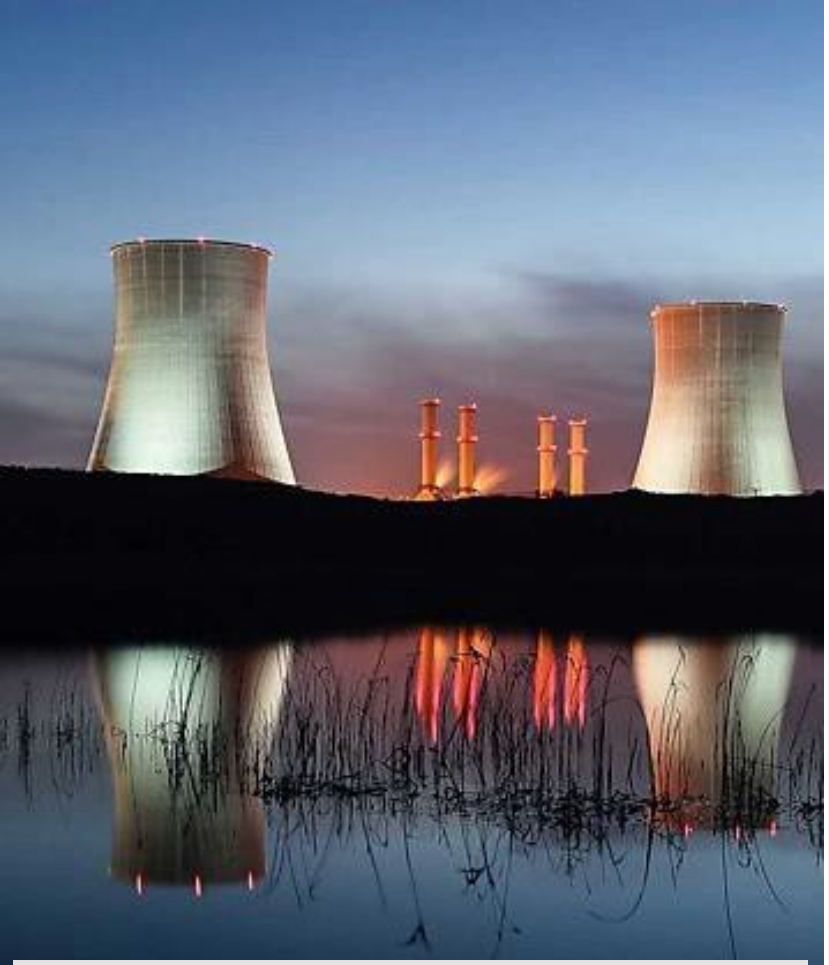
Standardization in the field of the protection of individuals (workers, patients, members of the public) and the environment against all sources of ionizing radiations in planned, existing or emergency exposure situations linked to nuclear activities, medical activities, industrial activities, research activities and natural radiation sources.
It includes notably standardization for the design and use of equipment/systems/sources, metrology of radiation, dosimetry and related protocols, monitoring and measurement methods for the environment, control of goods and materials that may contain radioactive substances.

Excluded: Radiological protection instrumentation matters dealt with by IEC/SC45B and Water quality - Radiological methods dealt with by ISO/TC 147/SC 3

ISO/TC 85

ISO/TC 85/SC 2

Radiological protection



About

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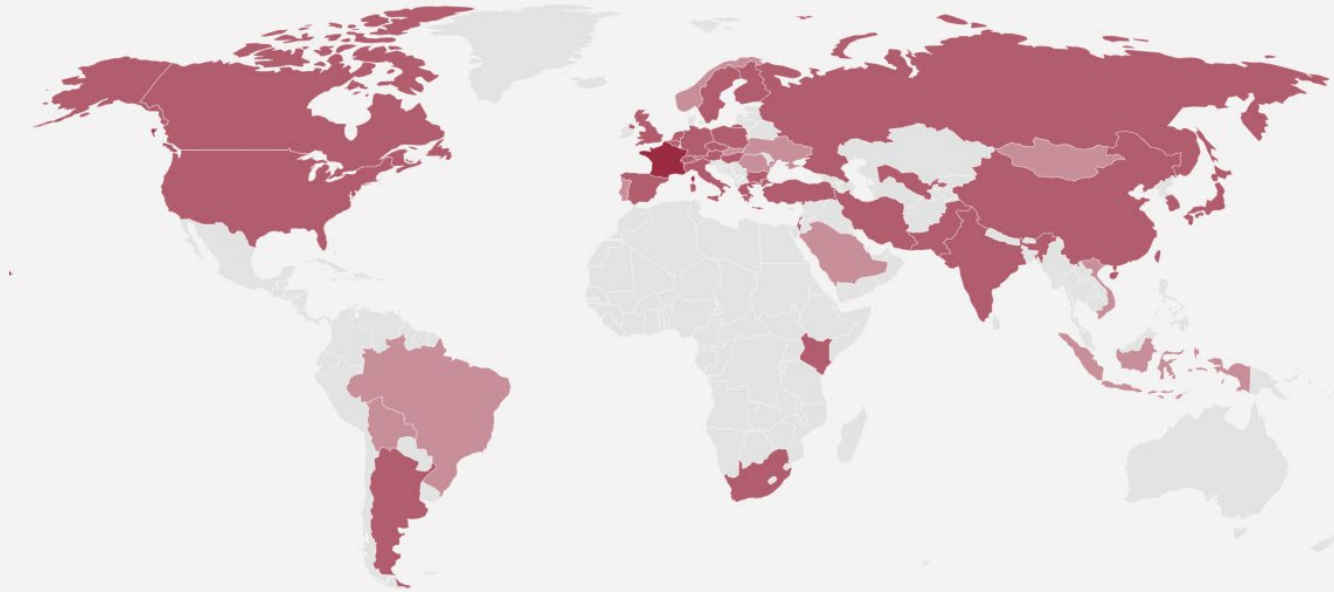
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Creation date: 1980



133
Published ISO standards *

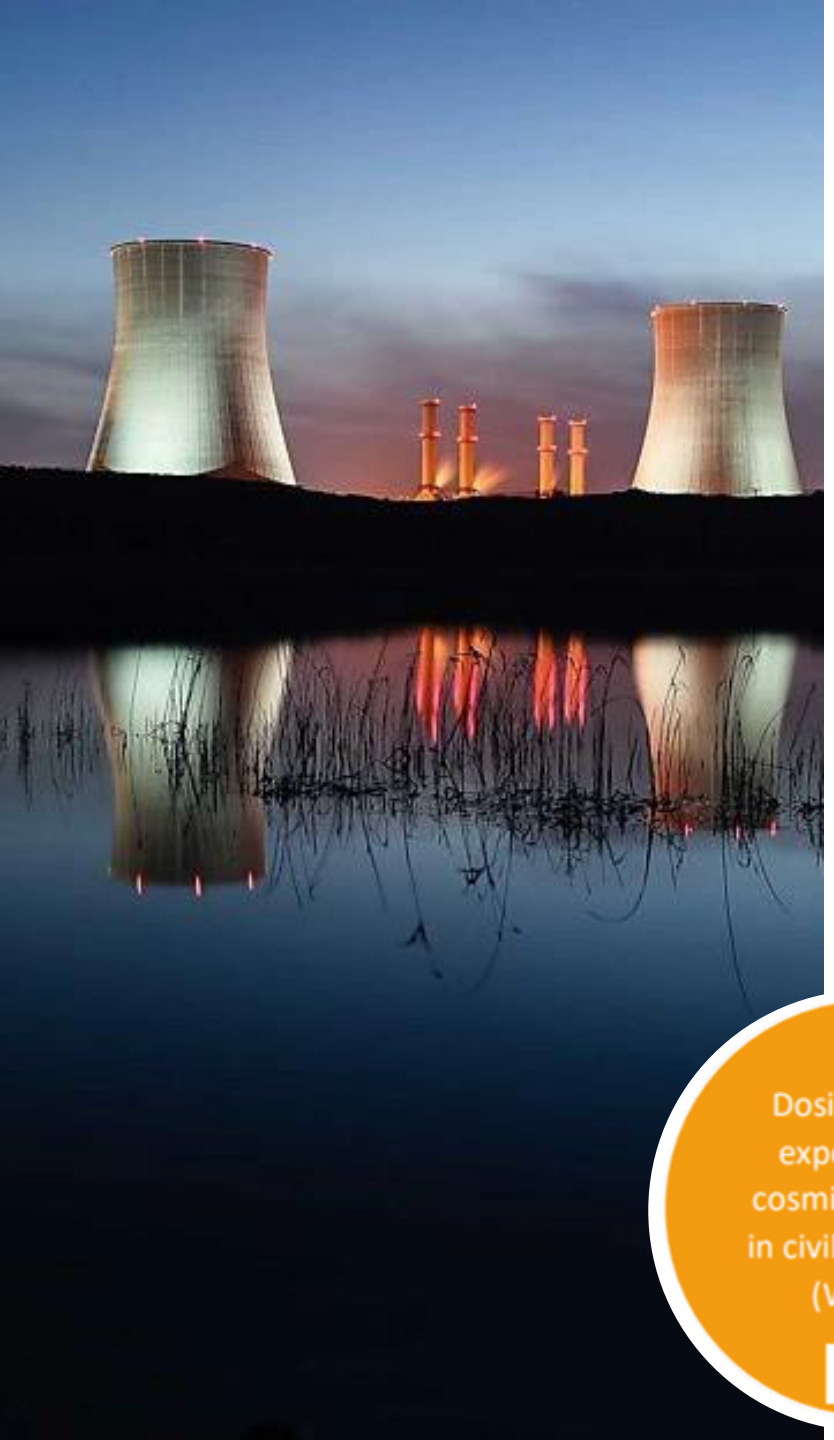
26
ISO standards under development *

* number includes updates

31
Participating members

11
Observing members

(Portugal and Saudi Arabia joined as O members)



ISO/TC 85

ISO/TC 85/SC 2

Radiological protection

- Reference radiation fields (WG 2)
- Monitoring and dosimetry for internal exposure (WG 13)
- Air control and monitoring (WG 14)
- Radioactivity measurements (WG 17)
- Biological and physical retrospective dosimetry (WG 18)
- Individual monitoring of external radiation (WG 19)
- Illicit trafficking in radioactive material (WG 20)
- Dosimetry for exposures to cosmic radiation in civilian aircraft (WG 21)
- Dosimetry and related protocols in medical applications of ionizing radiation (WG 22)
- Shielding and confinement systems for protection against ionizing radiation (WG 23)
- Radiation monitoring of the population and responders in nuclear/radiological emergencies (WG 25)

ISO/TC 85

ISO/TC 85/SC 2

Radiological protection

Organizations in liaison (Category A and B)

Acronym ↑	Title
BIPM	International Bureau of Weights and Measures
EANM	European Association of Nuclear Medicine
EC - European Commission	European Commission
EURADOS	European radiation dosimetry group
IAEA	International Atomic Energy Agency
ICRP	International Commission on Radiological Protection
ICRU	International Commission on Radiation Units and Measurements
ISSPA	International Source Suppliers and Producers Association
OIML	International Organization of Legal Metrology
WHO	World Health Organization
WNA	World Nuclear Association

ISO/TC 85 ISO/TC 85/SC 2 Radiological protection

Items of note:

- Noting the need to review the results of the systematic review on
  - ISO 3925:2014, Unsealed radioactive substances - Identification and documentation,
  - ISO 9978:2020, Radiation protection - Sealed sources - Leakage test methods,
  - ISO 21482:2007, Ionizing-radiation warning - Supplementary symbol,

  and the request from Germany to revise
  - ISO 2919:2012, Sealed radioactive sources – General requirements and classification,

  ISO/TC 85/SC 2 decided to launch a ballot (CIB) on the reactivation of WG 11 with a new title “radioactive sources”, including a call for candidates for the convenorship and experts. The CIB started on 5/1/26 and will end 6/30/26
- Considering the WG 25 report, ISO/TC 85/SC 2 decided to register 3 Preliminary Work Items to supplement and clarify aspects of the ISO 24434:2024, Radiological protection — Radiological monitoring for emergency workers and population following nuclear/radiological incidents — General principles:
  - Radiological monitoring for emergency workers and population following nuclear / radiological incidents - Part 1 : Managing all the useful data collected during population screening to enable dose assessment;
  - Radiological monitoring for emergency workers and population following nuclear / radiological incidents - Part 2 : Measurement of internal contamination and calculation of internal doses for people involved in screening
  - Measurement of external contamination of the body and decontamination strategy following an event involving a risk of contamination by radioactive substances
- ISO/TC85/SC2 contacted experts nominated for a potential revision of ISO 3999 (2004) “Radiation protection — Apparatus for industrial gamma radiography — Specifications for performance, design and tests” by the end of January 2025. A project leader from WG 20 was selected for the revision.

ISO/TC 85 ISO/TC 85/SC 2 Radiological protection

Publications in 2025

- **ISO/TS 11665-13:2025 (Ed 2)**, Measurement of radioactivity in the environment — Air: radon 222 — Part 13: Determination of the diffusion coefficient in waterproof materials: membrane two-side activity concentration test method
- **ISO 11929-1:2025 (Ed 3)**, Determination of the characteristic limits (decision threshold, detection limit and limits of the coverage interval) for measurements of ionizing radiation — Fundamentals and application — Part 1: Elementary applications
- **ISO 11929-2:2025 (Ed 3)**, Determination of the characteristic limits (decision threshold, detection limit and limits of the coverage interval) for measurements of ionizing radiation — Fundamentals and application — Part 2: Advanced applications
- **ISO 11929-3:2025 (Ed 3)**, Determination of the characteristic limits (decision threshold, detection limit and limits of the coverage interval) for measurements of ionizing radiation — Fundamentals and application — Part 3: Applications to unfolding methods
- **ISO 15382:2025 (Ed 3)**, Radiological protection — Procedures for monitoring the dose to the lens of the eye, the skin and the extremities
- **ISO 18510-1:2025 (Ed 1)**, Measurement of radioactivity in the environment — Bioindicators — Part 1: General guidance to the sampling, conditioning and pre-treatment
- **ISO 18518:2025 (Ed 1)**, Radiological protection — Procedures for monitoring the dose to the lens of the eye, the skin and the extremities
- **ISO 18589-7:2025 (Ed 2)**, Measurement of radioactivity in the environment — Soil — Part 7: In situ measurement of gamma-emitting radionuclides
- **ISO 18990:2025 (Ed 1)**, Measurement of radioactivity in urine-238Pu, 239Pu and 240Pu — Test method using alpha spectrometry or ICP-MS
- **ISO 19361:2025 (Ed 2),** Measurement of radioactivity — Determination of beta emitters activities — Test method using liquid scintillation counting
- **ISO 19581:2025 (Ed 2)**, Measurement of radioactivity — Gamma emitting radionuclides — Rapid screening method using scintillation detector gamma-ray spectrometry
- **ISO 20041-2:2025 (Ed 1)**, Tritium and carbon-14 activity in gaseous effluents and gas discharges of nuclear installations — Part 2: Determination of tritium and carbon-14 activities sampled by bubbling technique
- **ISO 20553:2025 (Ed 2)**, Radiation protection — Monitoring of workers occupationally exposed to a risk of internal contamination with radioactive material
- **ISO 24427:2025 (Ed 1)**, Radiological protection — Medical proton accelerators — Requirements and recommendations for shielding design and evaluation

link to publications

ISO/TC 85

ISO/TC 85/SC 2

Radiological protection

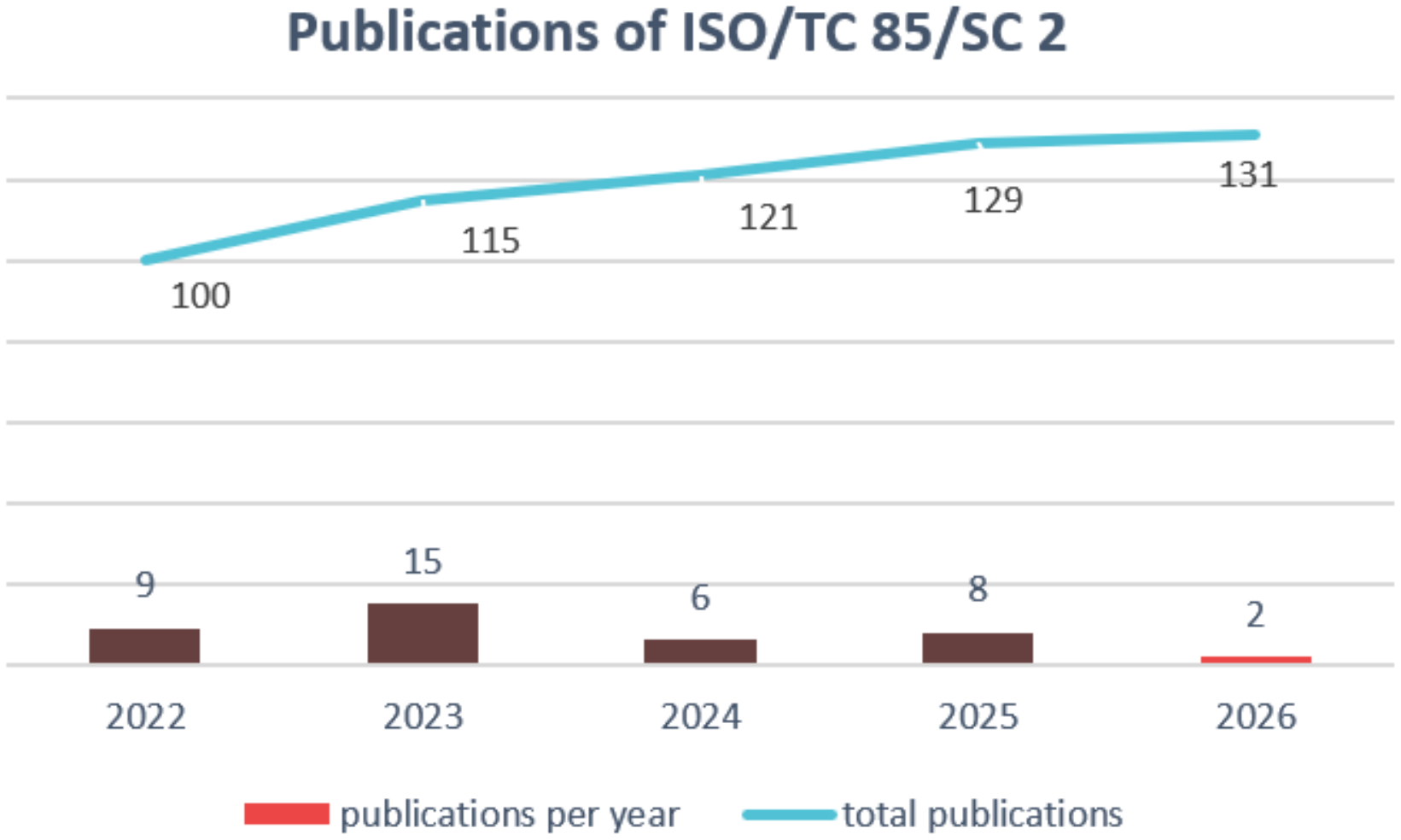
Publications in 2026*

- **ISO 11933-5:2026 (Ed 2)**, Components for containment enclosures — Part 5: Penetrations for electrical and fluid circuits
- **ISO 16659-2:2026 (Ed 1)**, Ventilation systems— In-situ efficiency test methods for iodine traps with solid sorbent — radioactive CH3I method
- **ISO 16659-3:2026 (Ed 1)**, Ventilation systems— In-situ efficiency test methods for iodine traps with solid sorbent — cyclohexane gas leakage rate method
- **ISO 18090-1:2026 (Ed 1)**, Radiological protection — Characteristics of reference pulsed radiation — Part 1: Photon radiation

link to publications

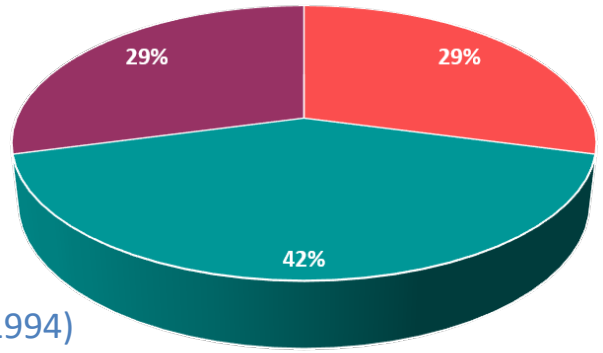
* As of June 1, 2026

ISO/TC 85 ISO/TC 85/SC 2



link to publications

ISO/TC 85 ISO/TC 85/SC 2 Radiological protection

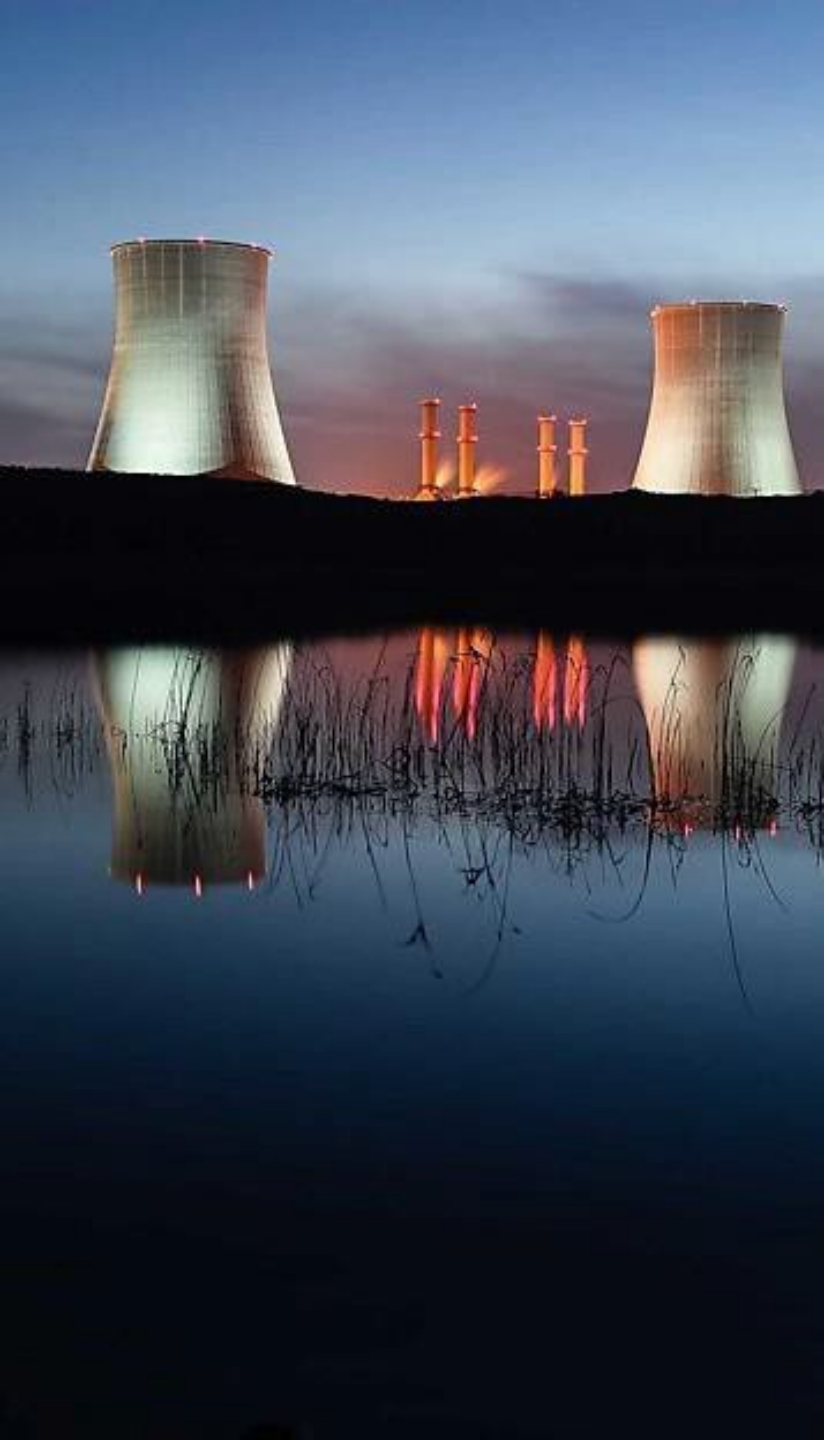


New items approved in 2025 and 2026

- **ISO/AWI 10648-1 and 2**
  Part 1: Design principles (Will replace ISO 10648-1:1997)
  Part 2: Classification according to leak tightness and associated checking methods (Will replace ISO 10648-2:1994)
- **ISO/AWI 16638**, Radiological protection — Monitoring and internal dosimetry for specific materials
  (To combine into one document Part 1: Inhalation of uranium compounds and Part 2: Ingestion of uranium compounds)
- **ISO/AWI 16646**, Fusion installations — Criteria for the design and operation of confinement and ventilation systems of tritium fusion facilities and fusion fuel handling facilities (Will replace ISO 16646:2024)
- **ISO/AWI 17873**, Nuclear facilities — Criteria for the design and operation of ventilation systems for nuclear installations other than nuclear reactors (Will replace ISO 17873:2004)
- **ISO/AWI 18589-5**, Measurement of radioactivity in the environment — Soil — Part 5: Strontium 90 — Test method using proportional counting or liquid scintillation counting (Will replace ISO 18589-5:2019)
- **ISO/AWI 20031**, Radiological protection — Monitoring and dosimetry for internal exposures due to wound contamination with radionuclides (Minor revision to replace ISO 20031:2020)
- **ISO/AWI 23558**, Nuclear facilities — Classification of challenging conditions for HEPA filters design and qualification **(New)**
- **ISO/AWI 24921**, Measurement of radioactivity in urine — 241Am — Test method using alpha spectrometry **(New)**
- **ISO/AWI 25593**, Nuclear facilities - Double-containment Annulus Leakage Test **(New)**
- **ISO/AWI 25596**, Pressurized light water reactors — Methods for radioactive sources design analysis for normal operations **(New)**
- **ISO/AWI 26281**, Shielding Design Analysis of Pressurized Water Reactor Nuclear Power Station Cavity Radiation Streaming **(New)**

link to publications

* on June 1, 2026



ISO/TC 85

ISO/TC 85/SC 2

Radiological protection

New topics to be explored from 2024 & 2025 plenary meetings

- to continue exploring the development of standards in the field of measuring/monitoring/mapping radioactivity using drones/aerial systems
  - to consider all initiatives from IEC, IAEA, EURADOS, and national organizations and see how they move forward
  - to collect more information/feedback from users and from manufacturers
  - to perform a gap analysis: what is already standardized (equipment, drones, etc.) and what are the missing areas not yet standardized
- to consider action on radioactive presence in consumer goods, including human food and animal feed and industrial materials
  - IAEA document (GSG 8, tecdoc series n°2011) addressing commodity measurements and thresholds was mentioned as a useful reference.
- to proceed cautiously with new ICRU 95 operational quantities (see 2025-11-13 R.9.3 Report from ISO)

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Thank You

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