BUREAU OF INDIAN STANDARDS

Program of Work

CHD 30 : Nuclear Energy for Peaceful Applications

Scope: a) To formulate Indian Standards for Nuclear Energy (for peaceful applications), for terminology, units and symbols, specifications in the field such as: - Materials for nuclear services (radioactive & non-radioactive), methods of sampling and test for physical, chemical and isotopic analysis of various materials, Specifications for nuclear grade chemicals. - Radiological protection - specifications for personal protective equipments, individual monitoring, area & personal monitoring devices & their calibration. - Nuclear energy including nuclear fuel cycle & technology, reactor technology & technology related to application of ionizing radiations. - Safety and environment surveillance in all the plants using and/or producing ionizing radiations

Liaison: **ISO TC-147 SC-3 (P):** *Radioactivity measurements* **ISO TC-85 (P):** *Nuclear energy, nuclear technologies, and radiological protection* **ISO TC-85 SC-2 (P):** *Radiological protection* **ISO TC-85 SC-5 (P):** *Nuclear installations, processes and technologies* **ISO TC-85 SC-6 (P):** *Reactor technology*

Published Standards

S.No	IS No.	TITLE	Reaffirm M-Y	No. of Amds	Eqv.
1	IS 11490:1985 Reviewed In : 2024 Decision taken to Reaffirm and Archive	Methods of radiological test for water	January, 2024	-	
2	IS 14194 (Part 1):2023	Radionuclides in environmental samples - Methods of estimation : Part 1 Gross beta activity measurement (Third Revision)		-	Indigenous
3	IS 14194 (Part 2):2022	Radionuclides in environmental samples - Methods of estimation : Part 2 Gross alpha activity measurement (Second Revision)		-	Indigenous
4	IS 14194 (Part 3/Sec 1):2024	Radionuclides in environmental samples - Method of estimation : Part 3 Uranium : Sec 1 In water sample (Second Revision)		-	Indigenous
5	IS 14194 (Part 3/Sec 2):2024	Radionuclides in environmental samples - Methods of estimation : Part 3 Uranium : Sec 2 Uranium measurement in geological and biological samples		-	Indigenous
6	IS 14194:2021	Radionuclides in Environmental Samples - Method of Estimation Part 4 Radium (First Revision)		-	Indigenous
7	IS 14194 (Part	Radionuclides in environmental	September, 2023	-	Indigenous

	5):2013 Reviewed In : 2023 Decision taken to Reaffirm and Archive	samples - Methods of estimation: Part 5 Sampling			
8	IS 15810:2008 Reviewed In : 2023 Decision taken to Reaffirm and Archive	Lithium pentaborate - Specification	September, 2023	-	Indigenous
9	IS 15837:2009 Reviewed In : 2024 Decision taken to Reaffirm and Archive	Anhydrous diboron trioxide - Specification	March, 2024	-	Indigenous
10	IS 15850:2009 Reviewed In : 2024 Decision taken to Reaffirm and Archive	Nuclear grade boron carbide - Specification	March, 2024	-	Indigenous
11	IS 15854:2009 Reviewed In : 2024 Decision taken to Reaffirm and Archive	Nuclear grade ion-exchange resins - Specification	March, 2024	-	Indigenous
12	IS 16689:2018 ISO 6527 : 1982 Reviewed In : 2023 ISO 6527 : 1982	Nuclear power plants - Reliability data exchange - General guidelines	January, 2023	-	Identical under dual numbering
13	IS 16691:2018 ISO 8107 : 1993 Reviewed In : 2023 ISO 8107	Nuclear power plants - Maintainability - Terminology	May, 2023	-	Identical under dual numbering
14	IS 16692:2018 ISO 2889 : 2010 Reviewed In : 2023 ISO 2889	Sampling airborne radioactive materials from the stacks and ducts of nuclear facilities	January, 2023	-	Identical under single numbering
15	IS 16693:2021 8769 ISO 8769	Reference sources - Calibration of surface contamination monitors - Alpha beta and photon emitters (First Revision)		-	Identical under dual numbering
16	IS 16878:2018 ISO/ASTM 51818 : 2013 Reviewed In : 2023 ISO/ASTM 51818	Practice for dosimetry in an electron beam facility for radiation processing at energies between 80 and 300 ke 5	September, 2023	-	Identical under dual numbering
17	IS 16879:2018 ISO/ASTM 51702 : 2013 Reviewed In : 2023 ISO/ASTM 51702 : 2013	Practice for dosimetry in a gamma facility for radiation processing	December, 2023	-	Identical under dual numbering
18	IS 16880:2018 ISO/ASTM 51431 : 2005 Reviewed In : 2023 ISO/ASTM 51431	Practice for dosimetry in electron beam and X-ray (Bremsstrahlung) irradiation facilities for food processing	November, 2023	-	Identical under dual numbering
19	IS 16883:2022 ISO 7212 :1986	Enclosures for protection against ionizing radiation - Lead shielding		-	Identical under dual numbering

	ISO 7212 :1986	units for 50 mm and 100 mm thick wall			
20	IS 16884:2018 ISO 3999 : 2004 Reviewed In : 2023 ISO 3999	Radiation protection - Apparatus for industrial gamma radiography - Specifications for performance, design and tests	September, 2023	-	Identical under dual numbering
21	IS 16885:2018 ISO 361 : 1975 Reviewed In : 2023 ISO 361	Basic ionizing radiation symbol	August, 2023	-	Identical under dual numbering
22	IS 16902 (Part 1):2023 ISO 12749-1 : 2020 ISO 12749-1 : 2020	Nuclear energy vocabulary : Part 1 general terminology		-	Identical under dual numbering
23	IS 16902 (Part 2):2023 ISO 12749-2 : 2022 ISO 12749-2 : 2022	Nuclear energy, nuclear technologies and radiological protection - Vocabulary : Part 2 radiological protection		-	Identical under dual numbering
24	IS 16902 (Part 4):2023 ISO 12749-4 : 2015 ISO 12749-4 : 2015	Nuclear energy, nuclear technologies and radiological protection - Vocabulary : Part 4 Dosimetry for radiation processing		-	Identical under dual numbering
25	IS 16902 (Part 5):2023 ISO 12749-5 : 2018 ISO 12749-5 : 2018	Nuclear energy, nuclear technologies and radiological protection - Vocabulary : Part 5 Nuclear reactors		-	Identical under dual numbering
26	IS 16902 (Part 6):2023 ISO 12749-6: 2020 ISO 12749-6: 2020	Nuclear energy, nuclear technologies and radiological protection - Vocabulary : Part 6 Nuclear medicine		-	Identical under dual numbering
27	IS 16986:2020 ISO/ASTM 51261 : 2013 Reviewed In : 2025 ISO/ASTM 51261 : 2	Practice for Calibration of Routine Dosimetry Systems for Radiation Processing	March, 2025	-	Identical under dual numbering
28	IS 16995:2018 ISO 6980-3 : 2006 Reviewed In : 2023 ISO 6980-3 : 2006	Nuclear energy - Reference beta-particle radiation - Calibration of area and personal dosemeters and the determination of their response as a function of beta radiation energy and angle of incidence	July, 2023	-	Identical under dual numbering
29	IS 17060:2018 ISO/ASTM 51939 : 2017 Reviewed In : 2023 ASTM 51939 : 2017	Practice for blood irradiation dosimetry	December, 2023	-	Identical under dual numbering
30	IS 17061:2019 ISO/ASTM 52628 : 2013 Reviewed In : 2024 ISO/ ASTM 52628 : 2020	Practice for dosimetry in radiation processing	March, 2024	-	Identical under dual numbering
31	IS 17062:2019 ISO/ASTM 52701 : 2013 Reviewed In : 2024 ISO/ASTM 52701: 2013	Guide for performance characterization of dosimeters and dosimetry systems for use in radiation processing	March, 2024	-	Identical under dual numbering

32	IS 17328 (Part 1):2021 ISO 7097-1:2004 ISO 7097-1:2004	Nuclear fuel technology - Determination of uranium : Part 1 Determination of uranium in solutions, uranium hexafluoride and solids - Iron (II) reduction/potassium dichromate oxidation titrimetric method		-	Identical under dual numbering
33	IS 17328 (Part 2):2021 ISO 7097-2:2004 ISO 7097-2:2004	Nuclear fuel technology - Determination of uranium : Part 2 Determination of uranium in solutions, uranium hexafluoride and solids - Iron (II) reduction cerium (IV) oxidation titrimetric method		-	Identical under dual numbering
34	IS 17328 (Part 3):2021 ISO 7476 :2003 Reviewed In : 2026 ISO 7476 :2003	Nuclear fuel technology - Determination of uranium : Part 3 Determination of uranium in uranyl nitrate solutions of nuclear grade quality - Gravimetric method	January, 2026	-	Identical under dual numbering
35	IS 17328 (Part 4):2021 ISO 8299 :2019 Reviewed In : 2026 ISO 8299 :2019	Nuclear fuel technology - Determination of uranium : Part 4 Determination of the isotopic and elemental uranium and plutonium concentrations of nuclear materials in nitric acid solutions by thermal-ionization mass spectrometry	March, 2026	-	Identical under dual numbering
36	IS 17329:2021 ISO 12183 :2016 ISO 12183 :2016	Nuclear fuel technology - Controlled-potential coulometric assay of plutonium		-	Identical under dual numbering
37	IS 17330:2021 ISO 18557 :2017 Reviewed In : 2026 ISO 18557 :2017	Characterization principles for soils buildings and infrastructures contaminated by radionuclides for remediation purposes	March, 2026	-	Identical under dual numbering
38	IS 17986 (Part 1):2023 ISO 4037-1 : 2019 ISO 4037-1 : 2019	Radiological Protection -X and Gamma reference radiation for calibrating dosemeters and doserate meters and for determining their response as a function of photon energy- Part 1 : Radiation characteristics and production methods		-	Identical under dual numbering
39	IS 17986 (Part 2):2022 ISO 4037-2 : 2019 ISO 4037-2 : 2019	Radiological protection - X and Gamma reference radiation for calibrating dosemeters and doserate meters and for determining their response as a function of photon energy- Part 2 : Dosimetry for radiation protection over the energy ranges from 8 keV to 1.3 MeV and 4 MeV to 9 MeV		-	Identical under dual numbering
40	IS 17986 (Part 3):2022 ISO 4037-3 : 2019 ISO 4037-3 : 2019	Radiological protection - X and Gamma reference radiation for calibrating dosemeters and doserate meters and for determining their response as a function of photon energy- Part 3 : Calibration of area and personal dosemeters and the measurement of their response as a function of energy and angle of		-	Identical under dual numbering

		incidence.			
41	IS 17986 (Part 4):2023 ISO 4037-4 :2019 ISO 4037-4 :2019	Radiological Protection ----X and Gamma reference radiation for calibrating dosemeters and doserate meters and for determining their response as a function of photon energy : Part 4 Calibration of area and personal dosemeters in low energy X reference radiation fields.		-	Identical under dual numbering
42	IS 17994 (Part 1):2023 ISO 6980-1 : 2022 ISO 6980-1 : 2022	Nuclear energy - Reference beta-particle radiation : Part 1 Methods of production (First Revision)		-	Identical under dual numbering
43	IS 17994 (Part 2):2023 ISO 6980-2 : 2022 ISO 6980-2 : 2022	Nuclear energy - Reference beta-particle radiation : Part 2 Calibration fundamentals related to basic quantities characterizing the radiation field		-	Identical under dual numbering
44	IS 17994 (Part 3):2023 ISO 6980-3 : 2022 ISO 6980-3 : 2022	Nuclear energy - Reference beta-particle radiation : Part 3 Calibration of area and personal dosemeters and the determination of their response as a function of beta radiation energy and angle of incidence		-	Identical under dual numbering
45	IS 17997:2022 ISO 15382 :2015 ISO 15382 :2015	Radiological protection - Procedures for monitoring the dose to the lens of the eye, the skin and the extremities		-	Identical under dual numbering
46	IS 18066 (Part 1):2022 ISO 11665-1 : 2019 ISO 11665-1 : 2019	Measurement of radioactivity in the environment - Air radon- 222 : Part 1 Origins of radon and its short-lived decay products and associated measurement methods		-	Identical under dual numbering
47	IS 18066 (Part 3):2022 ISO 11665-3 : 2020 ISO 11665-3 : 2020	Measurement of radioactivity in the environment - Air radon-222 : Part 3 Spot measurement method of the potential alpha energy concentration of its short-lived decay products		-	Identical under dual numbering
48	IS 18066 (Part 8):2022 ISO 11665-8 : 2019 ISO 11665-8 : 2019	Measurement of radioactivity in the environment - Air : radon-222 : Part 8 Methodologies for initial and additional investigations in buildings		-	Identical under dual numbering
49	IS 18066 (Part 12):2023 ISO 11665-12 : 2018 ISO 11665-12 : 2018	Measurement of radioactivity in the environment - Air : radon-222 : Part 12 Determination of the diffusion coefficient in waterproof materials: membrane one-side activity concentration measurement method		-	Identical under dual numbering
50	IS 18066 (Part 13):2023 ISO 11665-13 : 2017 ISO 11665-13 : 2017	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		-	Identical under dual numbering
51	IS 18067:2023	Radiological protection - Sealed		-	Identical under dual

	ISO 2919 : 2012 ISO 2919 : 2012	radioactive sources - General requirements and classification			numbering
52	IS 18068:2023 ISO 9978 : 2020 ISO 9978 : 2020	Radiation protection - Sealed sources - Leakage test methods		-	Identical under dual numbering
53	IS 18069 (Part 1):2023 ISO 8529-1 : 2021 ISO 8529-1 : 2021	Neutron reference radiations fields : Part 1 Characteristics and methods of production		-	Identical under dual numbering
54	IS 18069 (Part 2):2023 ISO 8529-2 : 2000 ISO 8529-2 : 2000	Reference neutron radiations Part 2: Calibration fundamentals of radiation protection devices related to the basic quantities characterizing the radiation field		-	Identical under dual numbering
55	IS 18070:2023 ISO 29661 : 2012 ISO 29661 : 2012	Reference radiation fields for radiation protection - Definitions and fundamental concepts		-	Identical under dual numbering
56	IS 18111:2023 ISO 14146 : 2018 ISO 14146 : 2018	Radiological protection - Criteria and performance limits for the periodic evaluation of dosimetry services		-	Identical under dual numbering
57	IS 18251:2023 ISO 22127 : 2019 ISO 22127 : 2019	Dosimetry with radiophotoluminescent glass dosimeters for dosimetry audit In Mv X-Ray radiotherapy		-	Identical under dual numbering
58	IS 18282 (Part 1):2023 ISO 21909-1 : 2021 ISO 21909-1 : 2021	Passive neutron dosimetry systems Part 1 : Performance and test requirements for personal dosimetry		-	Identical under dual numbering
59	IS 18282 (Part 2):2023 ISO 21909-2 : 2021 ISO 21909-2 : 2021	Passive neutron dosimetry systems Part 2 : Methodology and criteria for the qualification of personal dosimetry systems in workplaces		-	Identical under dual numbering
60	IS 18533 (Part 1):2024 ISO 13304-1 : 2020 ISO 13304-1 : 2020	Radiological protection - Minimum creiteria for electron paramagmetoc resonance (ERP) spectroscopy for retrospective dosimetry of ionizing radiation Part 1 : General principles		-	Identical under dual numbering
61	IS 18533 (Part 2):2024 ISO 13304-2 : 2020 ISO 13304-2 : 2020	Radiological protection - Minimum criteria for electron paramagnetic resonance (ERP) spectroscopy for retrospective dosimetry of ionizing radiation Part 2 : Ex human vivo tooth enamel dosimetry		-	Identical under dual numbering
62	IS 18534 (Part 1):2024 ISO 18310-1 : 2017 ISO 18310-1 : 2017	Measurement and prediction of the ambient dose equivalent from patients receiving iodine 131 administration after thyroid ablation Part 1 : During the hospitalization		-	Identical under dual numbering
63	IS 18534 (Part 2):2024 ISO 18310-2 : 2021 ISO 18310-2 : 2021	Measurement and prediction of the ambient dose equivalent from patients receiving iodine 131 administration after thyroid ablation Part 2 : External effective dose to the caregivers after release from the hospital		-	Identical under dual numbering
64	IS 18535:2024	Clinical dosimetry - Beta radiation		-	Identical under dual

	ISO 21439: 2009 ISO 21439: 2009	sources for brachytherapy			numbering
65	IS 18536:2024 ISO 28057: 2019 ISO 28057: 2019	Clinical dosimetry - Dosimetry with solid thermoluminescence detectors for photon and electron radiations in radiotherapy		-	Identical under dual numbering
66	IS 18605:2024	Glove box for handling radioactive material - Specification		-	Indigenous
67	IS 18636:2024	Monitoring and internal dose assessment for radiation workers handling plutonium		-	Indigenous
68	IS 19176:2025	Measurement of Environmental Tritium in Natural Water		-	Indigenous
69	IS 19188:2025	Radiometry of Metallic Components and Structures using Sealed Radioactive Sources - Code of Practice		-	Indigenous

Standards under Development

Projects Approved

SI. No.	Doc No.	Title
No Records Found		

Preliminary Draft Standards

SI. No.	Doc No.	Title
1	CHD 30 (28505)	Measurement of Radiocarbon in Natural Water for Hydrological Studies

Drafts Standards in WC Stage

SI. No.	Doc No.	Title
No Records Found		

Draft Standards Completed WC Stage

SI. No.	Doc No.	Title
1	CHD 30 (28128)	Probabilistic Risk Assessment of Nuclear Power Plants - Guidelines
2	CHD 30 (28165)	Radionuclides in Environmental Samples - Methods of Estimation Part 1 Gross Beta Activity Measurement
3	CHD 30 (28258)	Measurement of Radioactivity in the Environment - Air Radon-222 Part 4 Integrated Measurement Method for Determining Average Activity Concentration Using Passive Sampling and Delayed Analysis
4	CHD 30 (28259)	Measurement of Radioactivity in the Environment - Air Radon-222 Part 6 Spot Measurement Methods of the Activity Concentration
5	CHD 30 (28268)	Nuclear Energy Nuclear Technologies and Radiological Protection - Vocabulary Part 3 Nuclear Installations Processes and Technologies
6	CHD 30 (28525)	Radiation Protection - Performance Criteria for Radiobioassay
7	CHD 30 (28526)	Radiation Protection - Dose Assessment for the Monitoring of Workers for Internal Radiation Exposure
8	CHD 30 (28645)	Measurement of Radioactivity - Determination of Beta Emitters Activities - Test Method Using Liquid Scintillation Counting
9	CHD 30 (28646)	Measurement of Radioactivity - Gamma Emitting Radionuclides - Rapid Screening Method Using Scintillation Detector Gamma-Ray Spectrometry
10	CHD 30 (28674)	Nuclear Fuel Technology Controlled-Potential Coulometric Measurement of Plutonium first revision
11	CHD 30 (28675)	Measurement of Radioactivity - Alpha- Beta- and Photon Emitting Radionuclides - Reference

		Measurement Standard Specifications for the Calibration of Surface Contamination Monitors Second Revision
12	CHD 30 (28676)	Nuclear Fuel Technology - Determination of Uranium in Solutions Uranium Hexafluoride and Solids Part 1 Iron II Reduction Potassium Dichromate Oxidation Titrimetric Method First Revision
13	CHD 30 (28677)	Nuclear Fuel Technology - Determination of Uranium in Solutions Uranium Hexafluoride and Solids Part 2 Iron II Reduction Cerium IV Oxidation Titrimetric Method First Revision

Finalized Draft Indian Standard

SI. No.	Doc No.	Title
No Records Found		

Finalized Draft Indian Standards under Print

SI. No.	Doc No.	Title
1	CHD 30 (27303)	Monitoring Radioactive Gases in Effluents from Facilities Producing Positron Emitting Radionuclides and Radiopharmaceuticals
2	CHD 30 (27305)	Guidance for Gamma Spectrometry Measurement of Radioactive Waste
3	CHD 30 (27307)	Measurement of radioactivity - Gamma ray and beta emitting radionuclides - Test method to assess the ease of decontamination of surface materials

Total Published Standards:57 Total Standards Under development:17

Aspect Wise Report

Product : 7
Code of Practices : 3
Methods of Test : 51
Terminology : 6
Dimensions : 0
System Standard : 0
Safety Standard : 1
Others : 0
Service Specification : 0
Process Specification : 0
Unclassified : 0

Annexure-I :List of Indian Standards Withdrawn/Superseded

SI. No.	IS No. & Year	Title
1	IS 17061:2022 ISO/ ASTM 52628 : 2020 ISO/TS 24159 : 2022	Practice for Dosimetry in Radiation Processing First Revision

Annexure-II :List of Indian Product Standards

SI. No.	IS No. & Year	Title
1	IS 15810:2008 Reviewed In : 2023 Decision taken to Reaffirm and Archive	Lithium pentaborate - Specification
2	IS 15837:2009 Reviewed In : 2024 Decision taken to Reaffirm and Archive	Anhydrous diboron trioxide - Specification
3	IS 15850:2009 Reviewed In : 2024	Nuclear grade boron carbide - Specification

	Decision taken to Reaffirm and Archive	
4	IS 15854:2009 Reviewed In : 2024 Decision taken to Reaffirm and Archive	Nuclear grade ion-exchange resins - Specification
5	IS 16883:2022 ISO 7212 :1986 ISO 21350: 2023	Enclosures for protection against ionizing radiation - Lead shielding units for 50 mm and 100 mm thick wall
6	IS 16884:2018 ISO 3999 : 2004 Reviewed In : 2023 ISO 3999	Radiation protection - Apparatus for industrial gamma radiography - Specifications for performance design and tests
7	IS 18605:2024	Glove box for handling radioactive material - Specification