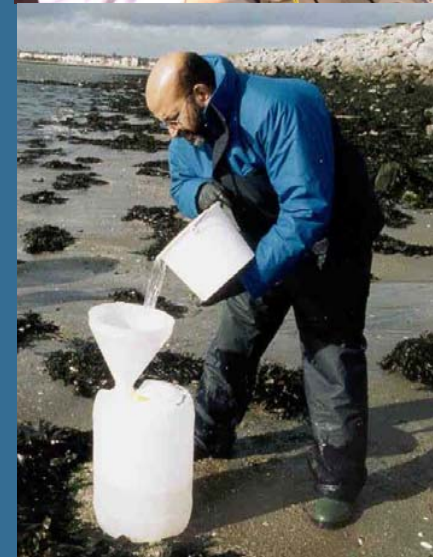


THE RADIOLOGICAL PROTECTION INSTITUTE OF IRELAND

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Measurement Services



Radiological Protection Institute of Ireland
An Institiúid Éireannach um Chosaint Raideolaíoch



THE RADIOLOGICAL PROTECTION INSTITUTE OF IRELAND

- Advisory Body
- Regulatory Authority
- Calibration Laboratory
- Dosimetry Service
- Radon Monitoring Service
- Environmental Monitoring
- Information Service



Overview of Legal Requirements

- S.I. 125 of 2000 - Radiological Protection Act, 1991 (Ionising Radiation) Order, 2000
- Quality Assurance - ISO 17025



RPII Calibration Service



The RPII offers a calibration service for:

- Ionising radiation dose/dose-rate meters used to measure ambient radiation intensity.
- Surface contamination monitors, typically used to detect radioactive spillage on benches.
- Personal monitors/alarms used to give a direct reading of radiation dose to an individual.
- In addition the service offers wipe testing of sealed radioactive sources for leakage of radioactivity



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ISO 17025 Accreditation



Source	Energy	Ambient dose equivalent rates $H^*(10)$	Best Measurement capability expressed as an uncertainty
Cs-137	662keV	$8.2\mu\text{Svh}^{-1} - 241.7\mu\text{Svh}^{-1}$	$\pm 3\%$
Am-241	60keV	$28\mu\text{Svh}^{-1} - 1102\mu\text{Svh}^{-1}$	$\pm 3\%$



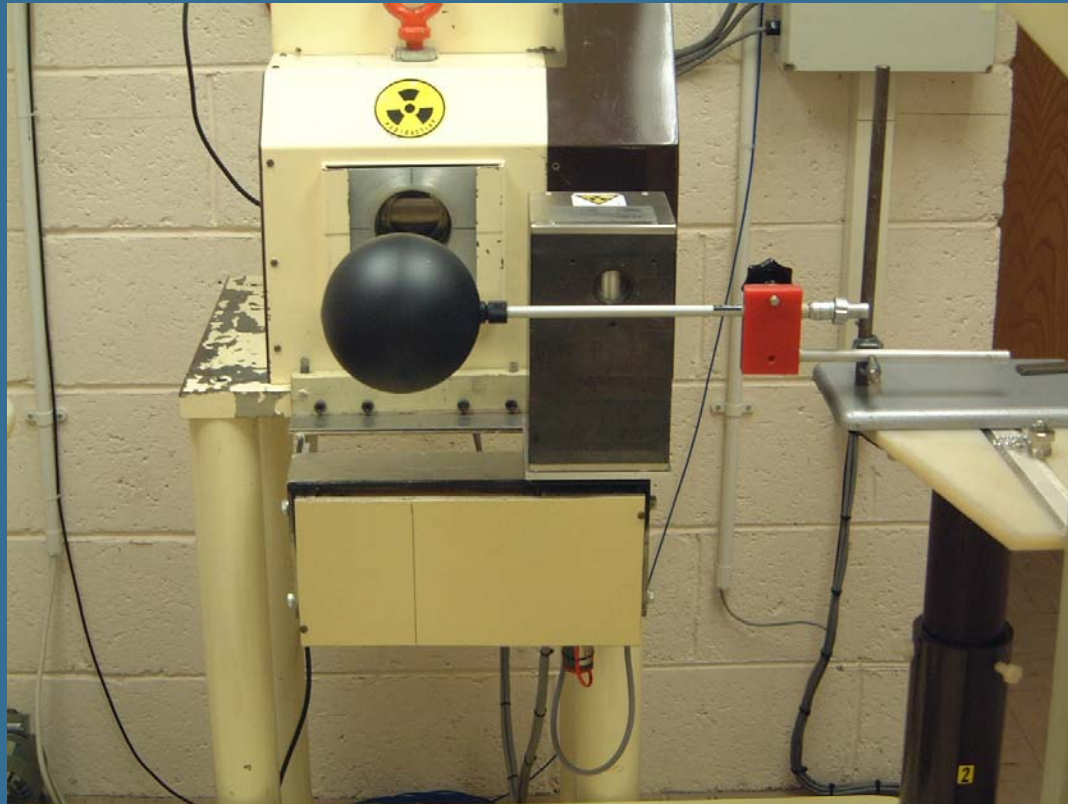
Instrument Testing



- Instruments are checked in accordance with the customer requirements for compliance with the relevant manufacturers' specification by exposing them to radiation of different energies and/or dose-rates
- Calibrations carried out by the Instrument Calibration Service are traceable to the National Physical Laboratory (NPL) primary laboratory in the UK.



Secondary Standard Setup



Secondary Standard Setup cont.



Leakage Testing



- Licensees holding sealed radioactive sources are required to have them tested every two years for leakage.
- Testing is carried out by wiping the source or its housing and analysing the radioactivity content using appropriate techniques



Numbers we are dealing with

2003	Instruments Tested	496
	Leakage Testing	658
2004	Instruments Tested	370
	Leakage Testing	570
2005	Instruments Tested	340
	Leakage Testing	480



Instrument on Test



Other information

- As well as holding accreditation to ISO standard 17025 it also holds the internationally recognised Secondary Standard status
- The Service continues to be a member of the International Atomic Energy Agency Secondary Standard Dosimetry Network and the Ionising Radiation Metrology Forum.



Future Plans

- Upgrade our gamma irradiation facility
- Seek accreditation for testing of contamination monitors
- Investigate software options for the calibration laboratory



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