Schedule of Accreditation

issued by

United Kingdom Accreditation Service

2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

4280

Accredited to ISO/IEC 17025:2017

The Radiological Protection Centre
Incorporating the John Perry Laboratory
St George's University Hospitals NHS Foundation Trust

Issue No: 019 **Issue date:** 20 November 2024

Unit 5
The Observatory
24 Deer Park Road
London
SW19 3UA

Contact: Mehboob Rathod
Tel: +44 (0)20 8725 1498
Fax: +44 (0)20 8417 1338
E-Mail: mehboob.rathod@stgeorges.nhs.uk
Website: www.sghrpc.co.uk

Calibration performed at the above address only

Calibration and Measurement Capability (CMC)

Measured Quantity Instrument or Gauge	Range	Expanded Measurement Uncertainty (k = 2)	Remarks
RADIOLOGICAL			
Air Kerma	BS EN 61267:2006 all RQR qualities BS EN 61267:2006 all RQR-M qualities BS EN 61267:2006 RQT8 and RQT9 qualities BS EN 61267:2006 RQA5 quality 75kV with 2.5 mm Al added filtration and HVL of 2.5mm Al 70 - 75kV with added filtration of 2.5 mm Al + 2.0mm Cu and HVL of 9.2mm Al 125kV with added filtration of 2.5mm Al + 0.2mm Cu and HVL of 8.5mm Al 125kV with added filtration of 2.5mm Al + 1.0mm Cu and HVL of 11.3mm Al 70kV with added filtration of 2.5mm Al + 21.0mm Al and HVL of 6.5mm Al 25kV-35kV with total filtration 30µm Mo + 1mm Be	1.6%	Calibration of dosemeters intended for use in diagnostic radiology at the beam qualities stated Calibration against a secondary standard instrument. Calibration of solid state sensors performed at radiographic energies against a tertiary standard instrument (expanded measurement uncertainty 2%).
kVp Meters Peak Practical Voltage Peak Average Voltage	Beam qualities: 50-150kV with total filtration of 2.5mm Al or 3.0mm Al on the diagnostic tube 24-35kV with total filtration of 30µm Mo + 1mm Be on the mammography tube	0.7%	Non-invasive kV calibrations Calibration of non-invasive kVp meters intended for use in diagnostic radiology at the beam qualities stated Calibration against an Invasive Dynalyzer High Voltage Unit.

END

Appendix - Calibration and Measurement Capabilities

Introduction

The definitive statement of the accreditation status of a calibration laboratory is the Accreditation Certificate and the associated Schedule of Accreditation. This Schedule of Accreditation is a critical document, as it defines the measurement capabilities, ranges and boundaries of the calibration activities for which the organisation holds accreditation.

Calibration and Measurement Capabilities (CMCs)

The capabilities provided by accredited calibration laboratories are described by the Calibration and Measurement Capability (CMC), which expresses the lowest measurement uncertainty that can be achieved during a calibration. If a particular device under calibration itself contributes significantly to the uncertainty (for example, if it has limited resolution or exhibits significant non-repeatability) then the uncertainty quoted on a calibration certificate will be increased to account for such factors.

The CMC is normally used to describe the uncertainty that appears in an accredited calibration laboratory's schedule of accreditation and is the uncertainty for which the laboratory has been accredited using the procedure that was the subject of assessment. The measurement uncertainty is calculated according to the procedures given in the GUM and is normally stated as an expanded uncertainty at a coverage probability of 95 %, which usually requires the use of a coverage factor of $k = 2$. An accredited laboratory is not permitted to quote an uncertainty that is smaller than the published measurement uncertainty in certificates issued under its accreditation.

Expression of CMCs - symbols and units

It should be noted that the percentage symbol (%) represents the number 0.01. In cases where the measurement uncertainty is stated as a percentage, this is to be interpreted as meaning percentage of the measurand.
Thus, for example, a measurement uncertainty of 1.5 % means $1.5 \times 0.01 \times q$, where q is the quantity value.

The notation Q[a, b] stands for the root-sum-square of the terms between brackets: $Q[a, b] = [a^2 + b^2]^{1/2}$