


Schedule of Accreditation

issued by

United Kingdom Accreditation Service

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

 <p>UKAS CALIBRATION</p> <p>4382</p> <p>Accredited to ISO/IEC 17025:2005</p>	<p>James Fisher Nuclear Limited</p> <p>Issue No: 010 Issue date: 22 January 2018</p>	
	<p>Unit 64, 65, 3rd Avenue, Zone 2 Deeside Industrial Estate Flintshire CH5 2LA</p>	<p>Contact: Mike Walker Tel: +44 (0)1244 283 890 Fax: +44 (0)1244 280 351 E-Mail: mike.walker@jfnl.co.uk Website: www.jfnl.co.uk</p>
<p>Calibration performed at the above address only</p>		

DETAIL OF ACCREDITATION

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k=2$)	Remarks
Surface contamination response. Complying with statutory tests given in GPG14 including Tests before First Use	Alpha emitting nuclides Americium -241 Thorium -230 Uranium -234/238 Plutonium -239	7.8 %	Calibration of portable surface contamination instruments using large area sources with surface emission rates traceable to national standards.
Air kerma rate	Beta emitting nuclides Chlorine -36 Carbon -14 Strontium -90 Cobalt -60 Caesium -137	6.8 %	
Ambient dose equivalent $H^*(10)$	Americium 241 38 $\mu\text{Gy}\cdot\text{h}^{-1}$ to 630 $\mu\text{Gy}\cdot\text{h}^{-1}$	6.6 %	Calibration and testing of air kerma/air kerma rate monitors using air kerma rates traceable to national standards through a secondary standard dosimeter.
Personal dose equivalent $H_p(10)$	Caesium-137 0.2 $\mu\text{Gy}\cdot\text{h}^{-1}$ to 5.0 $\mu\text{Gy}\cdot\text{h}^{-1}$ 5.0 $\mu\text{Gy}\cdot\text{h}^{-1}$ to 1.9 $\text{Gy}\cdot\text{h}^{-1}$	7.6% 3.5%	
	Cobalt-60 73 $\mu\text{Gy}\cdot\text{h}^{-1}$ to 3.7 $\text{mGy}\cdot\text{h}^{-1}$	3.2%	
	Americium 241 66 $\mu\text{Sv}\cdot\text{h}^{-1}$ to 1.1 $\text{mSv}\cdot\text{h}^{-1}$	6.6 %	Calibration and testing of dose/dose rate monitors using air kerma rates traceable to national standards through a secondary standard dosimeter and using appropriate coefficients given in ISO Standards for $H^*(10)$.
	Caesium-137 0.3 $\mu\text{Sv}\cdot\text{h}^{-1}$ to 6.0 $\mu\text{Sv}\cdot\text{h}^{-1}$ 6.0 $\mu\text{Sv}\cdot\text{h}^{-1}$ to 2.3 $\text{Sv}\cdot\text{h}^{-1}$	7.6% 3.5%	
	Cobalt-60 84 $\mu\text{Sv}\cdot\text{h}^{-1}$ to 4.3 $\text{mSv}\cdot\text{h}^{-1}$	3.2 %	
	Americium 241 72 $\mu\text{Sv}\cdot\text{h}^{-1}$ to 1.2 $\text{mSv}\cdot\text{h}^{-1}$	6.6%	Calibration and testing of electronic personal dosimeters using air kerma rates traceable to national standards through a secondary standard dosimeter, and using appropriate coefficients given in ISO Standards for $H_p(10)$
	Caesium-137 0.3 $\mu\text{Sv}\cdot\text{h}^{-1}$ to 6.1 $\mu\text{Sv}\cdot\text{h}^{-1}$ 6.1 $\mu\text{Sv}\cdot\text{h}^{-1}$ to 260 $\text{mSv}\cdot\text{h}^{-1}$	7.6% 3.5%	
	Cobalt-60 43 $\mu\text{Sv}\cdot\text{h}^{-1}$ to 468 $\mu\text{Sv}\cdot\text{h}^{-1}$	3.2%	



4382

Accredited to
ISO/IEC 17025:2005

Schedule of Accreditation
issued by
United Kingdom Accreditation Service
2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

James Fisher Nuclear Limited
Issue No: 010 Issue date: 22 January 2018

Calibration performed at main address only

Measured Quantity Instrument or Gauge	Range	Calibration and Measurement Capability (CMC) Expressed as an Expanded Uncertainty ($k=2$)	Remarks
Measurement of surface emission rates $p.s^{-1}$	Alpha emitting nuclides Americium 241 Thorium 230 Plutonium-239 Uranium 234/238 Beta emitting nuclides Chlorine 36 Carbon 14 Strontium-90 Cobalt 60 Caesium 137 Electron Capture nuclides Iron 55	5.8% 5.8% 5.8% 5.8% 5.2% 5.2% 5.2% 5.2% 5.2% 10.5%	Measurement of surface emission rates from planar sources using a transfer standard counter calibrated with extended DkD sources of the same nuclide, or a nuclide with similar energy emissions.
END			