



The Personal Dosimetry Service Laboratories

PHE's Personal Dosimetry Service (PDS) is one of the largest personal dosimetry services in the UK and also one of the largest in Europe.

The service is now issuing thousands of whole-body and Extremity TLDs, and hundreds of Eye Headbands every week. In particular, the number of Extremities that we issue and read has increased significantly, and Eye Headbands didn't even feature when we featured the Labs in *Monitor* in 2015!

Being a comprehensive service, PDS also issues hundreds of Neutron (PADC) dosimeters and a fair few Radon dosimeters each week. This type is processed by our colleagues in our companion Laboratory in Leeds.

It has been a busy year in the PDS Laboratories, having broken new records for dosimeters issued and processed. To enable us to cope with this increase in throughput, we have recruited extra staff, added TLD readers, and set up a second work area to issue Extremity dosimeters.

We have also developed a new unwrapper/reception machine for faster throughput and are in the process of developing a system for automatically stacking the TLDs as they are wrapped.

Meet the Team: Introducing our Lab team in the photo (top right), and going from left to right: -

Alison Saunders, who joined the PDS Lab 6 months ago and has just passed her probation period.

Sue Mitchell, who has been with us for 18 months.

Ros McIntyre, who has been with us for over seven years.

Vicky Herbert, who has 10 years' experience in the Lab, and who has just completed her first year as the Lab Supervisor.

Sean Baker (me!) and I have been managing the PDS Lab for almost 17 years and, in that time, I have seen many changes and much growth in the service.

Also, Jaqueline Long (not pictured) has just recently joined us as another Lab Technician.

To cover our current record levels of work, we now have six of the large Harshaw 8800 readers and one desktop Harshaw 6600 reader, mainly for Extremity dose assessments.



The picture below shows the second Extremity issue station; as Extremity dosimeters need more manual work to put together; this was introduced to allow two people to issue Extremities at the same time.



We are a dedicated team who are happy to help with technical queries concerning processing dosimeters, providing dose reports etc. For other queries please contact our Customer Services office or Dose Records office, the contact details for which are given in this issue of *Monitor* (see *Getting Connected* on page 4).

Bath Stone Group and the Stoke Hill Mine

Stoke Hill Mine, owned and worked by the Bath Stone Group Limited, is renowned for its historic Bath Stone reserves and has been producing its famous honey-coloured mineral since the mid-1500s. The workings are driven into the hillside with tunnels 5.5m wide by 3m high and approximately 35m deep when measured from the surface.

Radon gas has always been present but new monitoring methods provided by PHE confirmed that levels were higher than expected or previously recorded. The workings became a controlled area under IRR17 and all workers were classified. Urgent work was undertaken to change and uprate the ventilation system and on January 12th 2019 a new fan started to ventilate the tunnels with over 2 million cubic metres of fresh air forced into the mine every 24 hours. Recorded radon gas levels fell from a peak spot reading of 4500 Bq m⁻³ to an average of 43 Bq m⁻³ and all classified workers have had 0 mSv doses for the last five months.

As Matthew Hawker the Mining Director for the Group explained, "PHE were instrumental in providing accurate monitoring, advice, training, guidance and assistance throughout the last 2 years. Our RPAs have been exceptional – we couldn't have done it without them."



We Do Personal Radiation Dosimetry and So Much More!

The Personal Dosimetry Service (PDS) is part of a wider suite of radiation protection services offered by PHE-CRCE. As well as meeting the protection needs of our customers, these services maintain and improve our knowledge of radiation exposure and protection in practice. We use that knowledge and experience in planning our research programmes and in wider activities such as the development of national and international guidance.

Our radiation protection services are provided by several CRCE departments, PDS being based in the Dosimetry Services Department which is headed by Neil McColl; it includes groups that deal with radon exposure in homes and workplaces, the testing of portable radiological protection instrumentation, and environmental radiation surveys and assessments.

Neil has over 35 years' experience in radiological protection, and over that period he has worked on environmental radioactive discharge assessments, nuclear accident radiological impact modelling and emergency response. Neil is also a member of the Editorial Board of the Journal of Radiological Protection. We are all based at the CRCE HQ in Chilton and work closely with other CRCE departments who contribute to and provide technical support for some of our services.

To find out more about CRCE's radiological protection services visit:

<https://www.phe-protectionservices.org.uk/services/>

Of course, the work of CRCE is just a fraction of the overall work that PHE does on public health, with many staff engaged on other specialist health-related topics. More information about PHE's wider work programme can be found here:

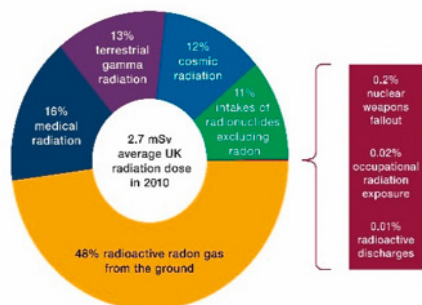
<https://www.gov.uk/government/organisations/public-health-england>

Radon: What is it? What is my responsibility? How can PHE help?

PHE has decades of experience and expertise in delivering radon programmes. Our measurement service is underpinned by our scientific research. We advise about the risk of harm from radon. We advise you how to check your property portfolio and what to do when action needs to be taken.

What is radon?

Radon is a radioactive gas. You can't see, smell or taste it. It is formed by the radioactive decay of the small amounts of uranium that occur naturally in all rocks and soils. Radon accounts for half of the average UK radiation dose.



Breakdown of the average UK radiation dose in 2010 by source of exposure

What is the risk to health from radon?

Radon produces radioactive particles in the air we breathe. These particles become trapped in our airways and emit radiation that damages the inside of our lungs. This damage increases the risk of lung cancer.

What is the employer's responsibility?

Under the Health and Safety at Work Act 1974, employers have a responsibility to ensure the Health and Safety of employees and others who have access to the work environment.

Radon should be included in the risk assessment under the Management of Health and Safety at Work Regulations 1999.

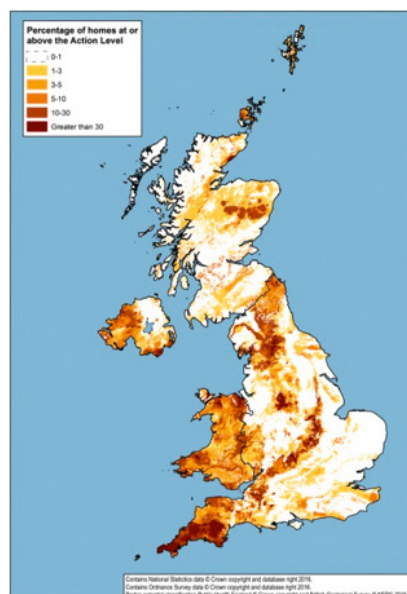
How can PHE help?

We recommend a three-stage process:

1. Check: Are any of your buildings in a radon Affected Area?

Affected Areas are parts of the UK where the potential for high radon levels is greatest. The radon atlas gives the worst-case radon potential within a 1km grid square and can be viewed for free on our website www.ukradon.org.

We also offer a search service for large property portfolios. A postcode list assessment is more specific, giving the radon potential for properties sharing a given postcode.



2. Measure: All occupied properties in an Affected Area should be tested.

PHE is a validated laboratory and can carry out your radon testing programme.



3. Act: The radon levels should be reduced if the result is over 300 Bq m⁻³ for workplaces (Ionising Radiation Regulations 2017).

Various remediation options are available depending on the result and construction of the property.

PHE radon group will exhibit at:
Health & Safety North, Manchester 8-9 October.
Stand F20.




Please come and visit us if you are also attending these events.

For general radon information please visit our website at www.ukradon.org.

For specific information about any of the service above, please contact us by email at radon@phe.gov.uk.

Exhibitions Autumn 2019 – Spring 2020

PHE PDS plans to exhibit at the following conferences and exhibitions in late 2019 and into 2020. If you see our stand then pop by and see us, otherwise grab us for a coffee!

| | |
|---|---|
|  | <p>IPEM Radiation Protection in Nuclear Medicine London, 8th October 2019</p> |
|  | <p>SRP South West Conference Dillington House, Somerset, 16th – 17th October 2019</p> |
|  | <p>SRP Annual Conference Bournemouth, 28th – 30th April 2020</p> |

Recycling within PDS

We are very aware of the importance of sustainability, especially highlighted recently by the topic of “single use plastic”, so we have been looking at all our consumables to see if there are more that we can recycle.



Plastic polylopes are the outer clear plastic bags used to send out our dosimeters to you – and yes, these are fully recyclable and, to make it clear, we will be adding the recycle logo to our next print order.

Our Glassine envelopes (the small opaque envelopes holding the TLD inserts) are fully recyclable.

Our Manilla padded envelopes are also fully recyclable.

Our plastic holders are recyclable, but the metal needs to be removed from the plastic and recycled separately.

Our padded green envelopes are only partially recyclable as they contain paper and plastic combined and so need to be separated in order to recycle them. We are investigating options for a fully recyclable product to use in the near future. Watch out for details!

We are aiming to replace our consumables with recyclable and sustainable products where it is viable to do so, but please help us to be green and recycle where possible. Thank you.

Getting Connected to the Personal Dosimetry Service (PDS)

Telephone

Nicky Gibbens, Manager
Sean Baker, Laboratory Manager
Hugh Schoenemann, Customer Services Manager
Dosimeter Logistics Office
Dose Records Office

Prefix 01235 (unless*)

825334
825349
825412
825339
825230

Laboratories:

TLD & Extremity
Neutron (Leeds)*
Customer Services (CS) Team
CS Email: customerservices@phe.gov.uk

Email

General PDS Email

doserecords@phe.gov.uk
personaldosimetry@phe.gov.uk