Public Health England

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Monitor

Newsletter of the Personal Dosimetry Service
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Dosimetric Quality Assurance – Or How Do We Know Our Dosemeters Work?

We occasionally get enquiries from customers who are worried that our dosemeters may not be responding to radiation: they expected a reading above zero and did not get one. Normally, this is because the dose that was received was actually too small to be distinguishable from the natural background dose. (For example, sometimes an electronic dosemeter can show an elevated dose rate, but if this is only for a short time the time-integrated dose can still be small.)

Nevertheless, here is a summary of all of the assurance and control measures that we take within our quality management system. All of these are regularly analysed and reviewed, and any anomalies investigated:

- every TLD-type dosemeter (whole body and extremity) is individually calibrated before use, and then checked periodically
- every batch of PADC plastic (single-use) is calibrated before use
- every dosemeter reader is checked on a daily basis, with exposed and unexposed dosemeters, to make sure they are giving the correct answers
- additionally, the TLD readers have their measurement systems independently checked every 20 minutes
- as part of having HSE approved dosimetry service status, we undertake 'blind' performance testing every 18 months. We supply a set of dosemeters to a third-party testing laboratory, which irradiates them. After we send the laboratory the results, it provides us with a certificate. We must pass the tests in order to maintain HSE approval (which we do)
- we also take part in national and international intercomparisons (see, for example, the article on EURADOS in this issue). These are similar to performance tests, in that we issue dosemeters exactly as if they were going to a customer, but they cover a wider range of radiation energies and types
- we run an in-house 'dummy customer subscription'. A dosemeter is issued to a member of PHE staff as if they were a customer, and is either irradiated or not. The results are used to check not only the accuracy of dose results but also our turnaround times

These activities make sure that our dosimetry is both highly accurate and highly reliable.

Electronic Reporting

You should all have recently received your dose summaries for 2015. Many of you have opted to be sent these electronically by email. This means both that you receive the reports more quickly and that you help us to meet our environmental policy requirement to reduce paper usage.

We can also offer you dose results and issue lists in comma delimited text file (csv) format for loading into your own database or for checking off your order. If you would like more information on any of these services please contact us on **doserecords@phe.gov.uk**.

Also in this issue

Self-employed Subcontractors – Can I Get my Dosimetry Through My Client?

We are sometimes asked about cases where a specialist does radiation work for a succession of clients. Such specialists are often self-employed, and will work under contract for spells of a few weeks or months before moving on to another client. The clients themselves are often established radiation employers, with their own dosimetry arrangements; so can it make sense for the self-employed contractor to get their dosimetry through their client?

The most important point is that almost all of the obligations for the protection of workers fall on the employer (the rest fall on the workers themselves). This is true of any legislation made under the Health and Safety at Work etc Act 1974, eg the Ionising Radiations Regulations 1999 (IRR99). If the subcontractor is self-employed, the responsibility for complying with the IRR99 lies with them.

Sometimes it is obviously better for the subcontractor to make their own dosimetry arrangements, eg if they move from one client to another relatively often. To keep switching dosimetry arrangements can be very inconvenient and less reliable. However, it can sometimes be helpful for the subcontractor to 'buy into' the client's dosimetry arrangements, eg where the contract is a longer one. The subcontractor is provided with dosimetry (dosemeters and dose record keeping) as if they were an employee of the client. But because the subcontractor is in reality their own employer, is it not their own responsibility to arrange dosimetry?

The answer is that such arrangements, while unusual, are acceptable *provided they are written into an agreement between the subcontractor and the client* (eg in the actual contract of work). IRR99 regulation 15 requires employers to 'co-operate by the exchange of information or otherwise to the extent necessary' to ensure compliance, and this would need to be covered by the agreement too. As usual, a radiation protection adviser (RPA) will be able to provide assistance.

Self-employed subcontractors may very well be 'outside workers', and so will also need to be familiar with the parts of the IRR99 covering them (for more information see **www.hse.gov.uk/pubns/irp4.pdf**).

EURADOS Intercomparison 2015

Proficiency testing is an essential part of any quality management system (see the article on dosimetric quality assurance in this issue). Accordingly, PHE's personal dosimetry service once again took part in an intercomparison exercise arranged by EURADOS (**www.eurados.org**). The 2015 intercomparison was for extremity dosemeters, measuring the dose to the skin of the extremities.

The test included exposure to gamma sources (^{137}Cs); X-radiations, with both ISO and RQR spectra; beta sources (^{85}Kr and ^{90}Sr/^{90}Y); and mixed radiation sources (^{137}Cs plus ^{90}Sr/^{90}Y). Doses ranged from 5 to over 550 mSv, while some exposures were carried out at shallow angles of incidence (60°).

Good results were obtained for both our finger stall and ring types, with the performance as expected when compared with our published data (technical data sheets can be downloaded from our website).

Dosimetry Online (DOL)

We have a web-based portal for our customers to access their dose and order information online 24 hours a day. It is updated every night and so has all the up-to-date dose information available.

A DOL account can be set up with a main customer administrator user plus extra read-only site users for customers with more than one site.

You can view individual doses, dose summaries, unreturned dosemeters, the order and the people on the current order. You can also change your details such as names and addresses, add or remove workers, and request a registration or termination of a dose record.

There is a DOL user guide to help you navigate your way around the site. Please contact the dose records office on **doserecords@phe.gov.uk** if you would like an application form for DOL or a copy of the user guide.

Meet the Teams

We are the largest personal dosimetry service in the UK and one of the largest in Europe.

The service issues approximately 7,000 body TLDs and 600 extremity TLDs each week, covering about 65,000 and 2,500 wearers, respectively.

The dose records team

It's all in the name, we keep dose records for all workers registered with PHE. Currently we have around 70,000 users; there are 9,500 registered workers, of whom 5,000 are classified.

Our team is responsible for adding new workers, updating their records and maintaining them. We also have direct links with the Central Index of Dose Information (CIDI) which maintains records for all classified workers. It enables us to obtain records for workers who may have been registered with a different HSE approved dosimetry service to ensure there are no gaps in their records.

We keep you updated by issuing various reports during the course of the year such as dose entry and quarterly reports. We also issue dose assessment and annual summary reports for non-record-keeping workers (not registered), for any dosemeters issued, used and returned. You can contact us with any discrepancies or concerns you may have regarding records and reports and we will be happy to oblige.

We are also the people who can help you to open a PHE DOL account for access to your dose information online, for the most up-to-date information on all your workers.

Going from left to right we are:

Nicky Gibbens has been with PDS for 23 years and deputy manager (technical) for the last 10 years

Melanie Dent has been with PDS for 15 years

Christina Hoddinott has been with PDS for 9 years

Lil Devanney has been with PDS for 3 years; she was previously in the PHE Thames Valley Health Protection Team

Sally Barnes has been with PDS for 15 years; she can help with enquiries on the online service

Damaged Parcels

We sometimes have dosemeters returned for assessment in standard paper envelopes.

These envelopes can easily tear, owing to the weight and sharp edges of the dosemeters and to their journey through the Royal Mail machinery.

If damage occurs in transit (as shown in the photograph below), the contents of the envelope can be lost. Neither you nor we want this to happen, not only because it means we cannot supply you with a dose assessment for your dosemeter but also because the dosemeter is re-usable and therefore valuable.

If a dosemeter is lost we need to buy another to replace it in our system, then we need to calibrate it and get it ready for issue to a customer. This all takes time and money and explains why we have to charge for their replacement.

To avoid this, we supply our dosemeters in a pre-paid return envelope (or a box with a label). Please use these to return your dosemeters to us as they have been specially designed for the purpose.

Otherwise, please use a box or padded envelope in order to ensure that all the dosemeters are received for assessment. If you would like a FREEPOST address label please contact our customer services team (see page 4).

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Prices from April 2016

Listed below are our prices effective from 1 April 2016. The prices listed do not include any discount at this stage. Prices decrease as quantities increase and many of our existing customers pay ***less*** than these prices.

For example, if you are receiving 4 TLDs every 4 weeks then your annual quantity is 52, which takes you into the first discount band. Discounts are calculated automatically by our system, which means there is no need to 'claim' them.

Dosemeter*	Wear period	£ (each)	
TLD	2 and 4 weekly	6.00	**Customer-specific investigation level** at £13.18 per notification
TLD	8 weekly	6.72	
TLD	13 weekly	7.60	
Extremity			
Stall	All	7.93	
Ring	All	9.32	
Neutron PADC and Radon	All weekly	33.90	

* Orders are subject to a minimum order charge of £60.

	£ (each)
Unreturned TLDs	24.00
Unreturned Extremities	24.00
Dose Record Keeping ***(using PHE dosemeters)***	
Initial registration fee ***(covering a minimum of 12 months)***	30.70
Renewal fee for subsequent years ***(prices decrease with quantity discounts)***	18.25
Dose Record Keeping ***(not using PHE dosemeters)***	
Initial registration fee ***(covering a minimum of 12 months)***	122.60
Renewal fee for subsequent years	97.90
Special Entries to Dose Records ***(first two entries per year are free)***	7.40
Radiation Passbooks	
Next working day despatch	26.30
Standard despatch	16.45

All prices are applicable to European delivery addresses and exclude VAT, which will be added to charges where applicable.
All supplies are subject to PHE terms and conditions.

Getting Connected to the Personal Dosimetry Service (PDS)

Telephone	Prefix +44(0)1235		Prefix +44(0)1235 (unless*)
Dr Phil Gilvin, Manager	825333	Sean Baker, Laboratory Manager	825349
Lyn Pike, Deputy (Commercial)	825343	Dosemeter logistics office	825339
Nicky Gibbens, Deputy (Technical)	825334	Dose records office	825230
Customer services team *(calls are rotated)*	825240	Laboratories	
		TLD and extremity	825353
		Neutron (Leeds)*	+44(0)113 267 9041

Fax		Email	
General PDS	825563	General PDS	personaldosimetry@phe.gov.uk
General customer services	825564	Dose records office	doserecords@phe.gov.uk