

Association of **U**niversity **R**adiation **P**rotection **O**fficers

July 2008

AURPO NEWSLETTER

Editor T.J.Moseley

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EDITOR'S INTRODUCTION

The summer edition is here at last! Thanks to all those who have helped with contributions. If you have not booked for Liverpool yet check out the AURPO website at - <http://www.aurpo.org/> . Richard Harrison has done a fantastic job here. You will find a registration form in the 'Overview' to the conference on the website or you can use the form appended to this newsletter – but be quick as accommodation is limited.

Everything is well in hand for Liverpool. My thanks go to Mark Bradley and Mike Sobanski for agreeing to chair the Wednesday sessions and thanks also to Richard Chalkley, Iran Adil-Smith and Ralph Whitcher for agreeing to act as reporters at the meeting.

The AURPO Certificate of Professional Development in Radiation Protection continues to go well at Strathclyde (see notice below). It provides a useful grounding in radiation protection matters both for would be RPAs and university RPOs. As a distance learning course it is ideally suited to new RPOs who need to broaden their knowledge base but cannot afford to take long periods away from the workplace on training courses. A growing list of members have now successfully completed the course together with others from industrial and medical backgrounds. If you know of anybody in your organisation who may benefit from the course please draw it to their attention.

Contributions for next issue by 30th November 2008 preferred format Word emailed to-

t.j.moseley@sheffield.ac.uk

AURPO Certificate of Professional Development in Radiation Protection

This course has been developed by the Scottish Centre for Occupational Safety and Health (SCOSH, University of Strathclyde) and the Association of University Radiation Protection Officers (AURPO) in collaboration with the Health and Safety Executive (HSE) and RPA 2000.

The aim of the course is to assist those people wishing to attain greater knowledge and understanding of radiation protection matters. The course is benchmarked against the HSE criteria for the 'Core of Knowledge' required for a Radiation Protection Adviser.

- ◆ 9 month programme commencing September 2008
- ◆ study by distance learning with online tutor support
- ◆ available to those with relevant qualifications and work experience currently working in radiation protection or related fields.

Deadline for 2008/9 course is 31st Aug 2008 .

For further information and an application form:

Tel: 0141 548 4147 Email: scosh@strath.ac.uk Web: www.cll.strath.ac.uk

PRESIDENT's REPORT

Time has passed very quickly and the AURPO will be celebrating the 50th Anniversary in three years time. If you have any ideas on how it should be celebrated please let the Executive know.

This September we will be meeting in Liverpool, the Capital of Culture for 2008. Peter Cole and his team have been busy ensuring that everyone who attends the Annual Conference will be entertained and that we all have a good time.

The Scientific Programme this year will explore the world of Non-Ionising Radiations including a Guide to the Artificial Optical Radiation Directive, to be followed by a session on Emergency Response to Radiation Incidents. Recently there has been much bad press relating to the real and perceived dangers of non-ionising radiations, hopefully the session on this issue will inform us of the true hazards and risks. We have speakers from outside AURPO and from our own members who are expert in the field.

Next years Conference will be moved to the University of Leicester on Wednesday 16th and Thursday 17th September 2009 for the main event. Please note the later dates in your diary and note it will not be the usual Tuesday and Wednesday as before. John Scott is finalising the details and he is looking forward to welcoming you all in Leicester again. It is very much appreciated that John Scott has volunteered to step in to host the 2009 Conference at short notice.

I can now confirm that the 2010 Annual Conference will be at Cambridge on Tuesday 8th and Wednesday 9th September 2010. We had wonderful Conference in Cambridge before in 1995 and David Plumb and Libby Yates will ensure that the 2010 will be just as good if not better!

Once again it is time for you to think of how you could help the Association. AURPO is a well known professional association and has representatives on many radiation protection related committees and working groups. Please come forward to offer help in running the businesses of our association. You will see the call for nominations inside this issue. I wish to remind you that the association could not go on as it is without the valuable help of its members. Please come forward with any offer and broaden the list of volunteers even more.

With Best Wishes

Sonia

Sonia Nuttall
1st July 2008



47th Annual General Meeting of the AURPO

In accordance with Section 6(a) of the Constitution, notice is hereby given of the above to be held at 17.00 on Tuesday 2nd September 2008 at the University of Liverpool. Any motions, duly proposed and seconded must be received by the Honorary Secretary by Monday 4th August 2008. All papers will be available at the meeting.

J Makepeace
Honorary Secretary

Call for Membership of the Executive Committee and its Standing Committee(s)

Nominations are invited for membership of the Executive Committee of the AURPO. This Committee consists of President, Secretary, Treasurer, Chairman of the Scientific and Technical Committee and up to six other members of the Association.

All nominations, proposed and seconded, must be received by the Honorary Secretary by Monday 4th August 2008. If necessary, a Returning Officer will be appointed for all elections.

Suggestions are also invited for membership of the Scientific and Technical Committee.

J Makepeace
Honorary Secretary
National Physical Laboratory, Hampton Road, Teddington, Middlesex,
TW11 0LF.

NB The above announcements were previously made on HASNET on 24th June 2008.

Scientific Program – AURPO Liverpool Sept 2nd-3rd 2008

Tuesday Afternoon – Proffered Papers and topical items

- 14.00 Official welcome to Liverpool University
- 14.10 – 15.00 Proffered papers
- 15.00 – 15.30 Break
- 15.30 – 16.00 EPP2 and its impact on RSA93 and the Exemption Order Review – Mr Steve Chandler (DEFRA).
- 16.00 – 16.30 Appropriate security for radioactive materials – Det Sgt Molyneux (Liverpool CTSA)
- 16.30 – 17.00 Safeguards Regulations – nuclear fuel cycle research activities and use of uranium and thorium – Dr Lawrence Johnson (HSE Safeguards Office)

Wednesday Scientific Program - Non-ionising Radiation Update and Radiation Emergency Response

Morning session on non-ionising radiations.

- 9.05 – 9.10 Chairman's Introduction (Mark Bradley, Oxford Univ.)
- 9.10 – 9.50 Keynote presentation on a Guide to the Artificial Optical Radiation Directive (John O'Hagan, HPA)
- 9.50 – 10.20 Developments in Laser Standards (Gus Zabierek, Birmingham Univ)
- 10.20 -11.00 Break
- 11.00-11.30 UV Hazard Awareness, Detection and Measurement (Graham Hart, Independent RPA)
- 11.30-12.00 RF Radiation Sources – risk assessments, measurements and control measures. (Raj Bungler, AURORA)
- 12.00- 12.30 NMR University Equipment, Hazard and Risk Assessments (Peter Cole, Univ of Liverpool)
- 12.30-13.55 Lunch Break

Afternoon session on emergency response to radiation incidents.

- 13.55 - 14.00 Chairman's Introduction - Mike Sobanski (Univ of Cardiff)
- 14.00 – 14.30 NAIR Response (Duncan Cox, HPA)
- 14.30 – 15.00 RADSAFE Response (Terry Kelly, UKAEA)
- 15.00 – 15.30 Fire Service Response to Radiation Incidents (Dave Hanlon, Oxfordshire FRS)
- 15.30 – 16.00 Break
- 16.00 – 16.30 Reports from Fire Incidents (Gareth Thomas, HSE)
- 16.30 – 17.00 Planning for Radiological Emergencies (Alan Muir, GSK)

T J Moseley (Chairman of STC)

26.07.2008

Become a Chartered Radiation Protection Professional (CRadP)

This article has been written in an attempt to clarify what AURPO members need to do to apply to use the title Chartered Radiation Protection Professional (CRadP).

If you were already a full member of SRP, on 10th December 2007, you will have already received an invitation to apply to use the title CRadP under “grandfather” rights. If you have not done so already, all you need to do is complete the form and return it with the appropriate fee. To qualify under “grandfather” rights you need to do so by the **3rd January 2009**, as after this date a full application will be required.

If you were not a full member of SRP by the date of the Charter, 10th December 2007, then you will need to complete a full application form. A “fast track” mechanism was introduced for processing applications from Partner Societies, where their members were not full members of SRP. These applications are given priority over other applications. To avail yourself of the “fast track” system then the application must be received before the **3rd January** next year. However I do not believe that this will be an issue, as the difficult part will be putting together the reports to submit with the form.

Guidance on the completion of the application form and the forms can be found on the SRP website, under: <http://www.srp-uk.org/chartered.html>

If you do not have a Master’s degree in a relevant subject you will need to write a Master’s Equivalence Report. The RPA Certificate of Competence under RPA2000 will count towards this report, but will need to be supported by some additional evidence. The report does not need to be very long and should not exceed 2000 words. You will also need to complete the Professional Review Report.

If you have a qualification that is not on the current list then you should approach the Membership Committee via SRP Administrative Office, to ask for it to be considered as either a Master’s degree, not on the approved list, or an equivalent qualification. The list will be amended as the committee becomes familiar with the content of the various degree courses and equivalent qualifications.

If you have a Master’s degree in a relevant subject, you will only need to complete the Professional Review Report which is a summary of your career history and experience. Once again it should not be overly long, maximum of 3000 words.

Full details of what is expected of someone is given in the Application Pack and this should be used as guidance when producing the Professional Review Report.

It may seem like a rather complicated process, but it was developed along similar lines to the requirements for Chartered Physicist and Chartered Scientist, as the Society is obliged to ensure standards are maintained.

It is early days for the scheme and there is much to learn. If you have severe difficulties please contact SRP for assistance regarding the requirements for the various forms.

Sheila Liddle
27th June 2008

DEFRA and EA NEWS

EA & DEFRA Consultations

1. This first notice is to draw to your attention the public consultation that has just begun on our two draft guidance documents, *Radioactive Substances Regulation Environmental Principles (REPs)* and *Assessment of Best Available Techniques (BAT)*.

The two documents are available via the consultation page on the Environment Agency's website at: <http://www.environment-agency.gov.uk/yourenv/consultations/2066484/?version=1&lang=e>
A short consultation document is also available via that page.

The documents are also available directly at:
http://www.environment-agency.gov.uk/commondata/acrobat/epconsult_2068897.pdf (REPs);
http://www.environment-agency.gov.uk/commondata/acrobat/batconsultation_2068887.pdf (BAT);
and
http://www.environment-agency.gov.uk/commondata/acrobat/rsr_cd_2068908.pdf (consultation document).

Any comments you may wish to make on the documents will be most welcome. Details of how to respond to the consultation can be found in the consultation document but are best sent to our specific email address REPS@environment-agency.gov.uk. The closing date for responses is Tuesday, 30 September 2008.

Defra is consulting on the revised UK Strategy for Radioactive Discharges 2006-2030 and on Statutory Guidance to the Environment Agency on the regulation of radioactive discharges into the environment. These documents provide additional information about the adoption and application of BAT and the role of the REPs in the context of radioactive discharges. You can view the Defra consultation via the links below:
<http://www.defra.gov.uk/corporate/consult/rad-discharges-eaguidance/index.htm>; and
<http://www.defra.gov.uk/corporate/consult/rad-discharges-ukstrategy/index.htm>

If you have any queries, please let me know.

Alan McGoff

Radioactive Substances Regulation Policy, Environment Agency

E-mail: Alan.mcgoff@environment-agency.gov.uk

Tel: 01733 464394

2. This 2nd notice is to draw to your attention to the public consultation that has just begun on our two draft documents, *Near-Surface Disposal Facilities on Land for Solid Radioactive Wastes: Guidance on Requirements for Authorisation* and *Deep Geological Disposal Facilities on Land for Solid Radioactive Wastes: Guidance on Requirements for Authorisation*.

The two documents are available via the Environment Agency's website at:
<http://www.environment-agency.gov.uk/yourenv/consultations/2040401/?version=1> (Near-Surface Disposal); and
<http://www.environment-agency.gov.uk/yourenv/consultations/2040409/?version=1> (Deep Geological Disposal).

The near-surface disposal document is also available via the Scottish Environment Protection Agency's (SEPA's) website at:
http://www.sepa.org.uk/consultation/current/radioactive_waste/index.htm

Any comments you may wish to make on the documents will be most welcome. Details of how to respond to the consultation can be found in Chapter 1 of the documents. The closing date for responses is Monday, 1 September 2008.

The guidance for near-surface disposal has been produced jointly with SEPA and the Environment and Heritage Service (EHS) in Northern Ireland. The guidance for deep geological disposal has been produced jointly with EHS in Northern Ireland.

You may respond on a document to any of the environmental regulators involved in producing that document. The environmental regulators will share with one another the responses they receive.

During the course of the public consultation we intend to discuss the documents at a workshop, to which you will be invited. The date and venue have not yet been decided, but we expect the workshop to be held during the first half of July. I shall provide you with these details shortly.

If you have any queries, please let me know.

Robert E Smith

Policy Adviser, Radioactive Substances Regulation, Environment Agency

E-mail: Robert.e.smith@environment-agency.gov.uk

Tel: 020 7092 6416

Mobile: 07771 940556

3. This 3rd notice draws to your attention the DEFRA consultation which went live on 18 June on the UK Radioactive Discharges Strategy 2006-2030 . Full details can be found at -

www.defra.gov.uk/corporate/consult/rad-discharges-ukstrategy/

Deadline for responses is 30 September 2008.

Tony Brown

Radioactive Substances Division , Defra

London SW1P 3TR

Tel. 0207 238 1739 (GTN 7 238)

SULG – 11th June

SULG met on the 11th June for an extended meeting as we had extra presentations/updates from: Alan Husher (NaCTSO) on source security; Steve Chandler (DEFRA) on EPP2; and Mr K Casey (HSE) on Safeguards Regulations – so it was like a preview of Tuesday afternoon at this years conference!

The host of consultations now ongoing have been detailed already (above) and reports on EPP2 and RSR Environmental Principles are given separately below. Some other items of interest were as follows:-

VLLW – low volume/high volume criteria – it was confirmed that the volume that should be used in determining whether waste was high or low volume would be the volume of the waste as it left the lab and not the volume of the waste container it was being put in. The defining line for high volume/low volume waste has still to be determined (*probably in the region of 50-100 m³/year*) but this clarification should assist small users.

Display of RSA93 Certificates – Chris Englefield clarified the position on this and stated that there is no requirement to display any notices in a public place only that they should be displayed in a position and manner that makes it easy for them to be seen by people who need to observe the conditions. (*Display of HASS certificates should be as close to the relevant source as possible and preferably in a secure area.*)

Update from DfT – Jim Stewart has gone on to pastures new in IAEA and he has been replaced at DfT by George Sallit who came to SULG and is now our main point of contact for transport of

radioactive materials – george.sallit@dft.gsi.gov.uk There should soon be a new set of schedules from IAEA which should be user friendly. They will not cover all CDG2007 requirements but it should be straightforward to identify the additional requirements. Anyone requiring a draft copy of the schedules should email George at his DfT address.

U and Th disposal – some people are still experiencing difficulties disposing of exempt quantities of U and Th to waste companies who claimed that the waste had to comply with the landfill regs. Bob Russ reiterated that radioactive waste covered by an Exemption Order came under the auspices of RSA93 and is therefore excluded from the provisions of regulations under the Landfill and Waste Framework Directives.

WEEE & Smoke Detectors – Bob Russ confirmed that the WEEE regulations **do not** apply to Smoke Detectors. Options in the EO can still be used. For small users this means that dustbin disposal is still available but that disposal of large numbers should be back to the manufacturer/supplier.

RSR Environmental Principles Workshop 4th April

This was a stakeholder engagement meeting prior to the issuing of the consultation documents on Environmental principles and BAT. All the main players were there with Joe McHugh (EA Head of Policy), Alan McGoff (EA) responsible for drafting the regulations and John Garraway (EA) responsible for clarifying BAT issues. John Garraway was at pains to emphasise that there would be no substantive changes with the introduction of BAT, that there would be continuity not step change and that paperwork would be expected to be updated at the time of the users next internal review of BPM. Industry representatives made strong presentations that a substantial 5 or 10 year review period was appropriate if a substantial new investment was made to implement current 'BAT'. Small scale operations should be able to follow 'recognised good practice' without the need for detailed BAT assessments. It will be interesting to see if the consultative document addresses these concerns. In the workshop sessions various case studies were looked at (new nuclear, decommissioning, waste repository, medical research facility) to see how BAT and the Environmental Principles would be applied to see how workable the draft regulations would be.

EPP2 Workshops

There was an introduction to EPP2 at a stakeholder forum in London on 30th April when we first learnt that the Environmental Permitting Programme Phase 2 (EPP2) would take in RSA93 under the EPP umbrella. It was at this earlier meeting that DEFRA decided to have additional stakeholder meetings to help explore what this would mean for radioactive substances users and this was arranged for July 1st. NGOs were also invited to the second meeting. EPP2 is scheduled to be introduced in late 2009. It is intended that a move to EPP2 should simplify procedures for certification but that there would be no overnight dramatic changes as existing permits (authorisations and registrations) would automatically become 'Environmental Permits' and would benefit from the new system and new rules without any needless paper change. In the future we can probably look forward to a permit to carry out work and make disposals eliminating the need for separate registration and authorisation documents. Following the structure of other permits there should be exemptions (to be covered by EO Review), then standard permits for low risk activities and bespoke permits for higher risk activities. The most important thing therefore is how the boundary between low risk standard permits and higher risk bespoke permits will be determined for unsealed source users. A consultative document on EPP2 for radioactive substances regulation is expected in autumn 2008 and we should find out more at the Liverpool conference in September when Steve Chandler (Head of RSR Technical Policy Branch at DEFRA) will be presenting us with the latest picture.

EO Review Update

Work is progressing towards a consultation exercise towards the end of the year once the structure and content of the new exemption regime have been prepared. An Expert Group, led by John Cooper of HPA has been working on proposals relating to the application of the concepts of 'exclusion' and 'exemption' within RSA, as well as the future nature of Schedule 1 and SOLA (Substances of Low Activity Exemption Order).

NEWS FROM HPA – Radiation Protection Division

The HPA website seems to have undergone a bit of a revamp and if you go to their publications page there are lots of useful articles to find. Since the last issue of the newsletter the following reports have been published:-

- [HPA-RPD-042 - UK Recovery Handbook for Radiation Incidents: 2008](#)
Added/updated: 11 July 2008
- [HPA-RPD-041 - Handbook for Assessing the Impact of a Radiological Incident on Levels of Radioactivity in Drinking Water and Risks to Operatives at Water Treatment Works: Supporting Scientific Report](#)
Added/updated: 14 July 2008
- [HPA-RPD-040 - Handbook for Assessing the Impact of a Radiological Incident on Levels of Radioactivity in Drinking Water and Risks to Operatives at Water Treatment Works](#)
Added/updated: 14 July 2008
- [HPA-RPD-039 - Environmental Radioactivity Surveillance Programme: Results for 2006](#)
Added/updated: 9 July 2008
- [HPA-RPD-038 - Tritium Concentrations in Crops Fertilised with Contaminated Sewage Sludge](#)
Added/updated: 7 July 2008
- [HPA-RPD-037 Programme to Identify Homes with High Radon Levels and to Encourage Radon Remediation in Homes in Flintshire](#)
Added/updated: 7 July 2008
- [HPA-RPD-036 - A Study on the Transport of Naturally-Occurring Radioactive Material](#)

HPA Current consultations

There are no consultations open at the moment.

DOCUMENTS of HPA

Articles relating specifically to ionising and non-ionising radiations that have been published since the last newsletter are listed below -

- [Static Magnetic Fields \(RCE-6\)](#)
This report considers the available scientific evidence from studies of people, animals and cells relating to health effects from exposure to strong static magnetic fields. Such fields are used in certain industries and scientific research facilities, and in magnetic resonance imaging (MRI). Recommendations for further work are given.
Added/updated: 21 May 2008
- [Guidance on the application of dose coefficients for the embryo, fetus and breastfed infant in dose assessments for members of the public \(RCE-5\)](#)
This document provides guidance on the application of these dose coefficients in relation to different exposure situations. Information is given on the dose coefficients and the related guidance previously given by the ICRP and the National Radiological

Protection Board.

Added/updated: 2 April 2008

- [**Review of Risks from Tritium. Report of the independent Advisory Group on Ionising Radiation \(RCE-4\)**](#)

Report of the independent Advisory Group on Ionising radiation

Added/updated: 2 April 2008

- [**Dose Criteria for the Designation of Radioactively Contaminated Land \(RCE-2\)**](#)

Added/updated: 2 April 2008

- [**Power Frequency Electromagnetic Fields, Melatonin and the Risk of Breast Cancer \(RCE-1\)**](#)

Added/updated: 2 April 2008

NEWSLETTERS

- [**Laser Safety Matters: Newsletter of the Laser Safety Forum**](#)

Added/updated: 17 July 2008

- [**Recovery: Newsletter for users of the UK Recovery Handbook for Radiation Incidents**](#)

Added/updated: 9 July 2008

- [**Environmental Radon Newsletter**](#)

Added/updated: 26 June 2008

- [**National Registry for Radiation Workers Steering Group Newsletter**](#)

Added/updated: 23 June 2008

- [**Monitor: Newsletter of the Personal Dosimetry Service \(formerly Personal Monitoring Services\)**](#)

Added/updated: 24 April 2008

- [**PC CREAM User Group Newsletter**](#)

Added/updated: 24 April 2008

HEALTH PROTECTION MATTERS

- [**Health Protection Matters - Summer 2008**](#)

The magazine of the Health Protection Agency

Added/updated: 17 July 2008

Includes articles on: 'sun smart' campaign re minimising the risk from skin cancer through exposure to UV; and on the health risk management of emerging EMF technologies. Also a news item asking for improvements to building regulations to mitigate internal radon levels in new build.

- [**Health Protection Matters - Spring 2008**](#)

Added/updated: 15 April 2008

Just some news items on tritium risks & solid radioactive waste disposal consultation.

NEWS FROM AFFILIATES

The NEW and Innovative Instrument from LabLogic



Liquid Scintillation Counting (LSC) is an analytical technique which is defined by the incorporation of the radiolabeled analyte into uniform distribution with a liquid chemical medium capable of converting the kinetic energy of nuclear emissions into light.

The LSC instruments, as we now them today, have been around since 1953. To get an absolute activity measurement using one of these conventional instruments, one needs to address the quench phenomenon by using either internal or external standards. This method can be laborious and once the instrument is at the end of its life cycle, its users often face issues and an expense with the disposal of the standard sources.

TDCR Technology : A New Method of Counting

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However, with the arrival of the NEW LabLogic 300SL Liquid Scintillation Counter this no longer need be the case. The 300 SL is the first commercially available instrument of its kind that employs the Triple to Double Coincidence Ratio (TDCR) technology, an ABSOLUTE activity measurement method by LSC. What this means is that for pure beta emitters, there is no need to have a standard to compensate for the quench phenomenon.

The 300 SL is a compact instrument with a small footprint and can easily be integrated into laboratories with limited space due to its compact dimensions of 50 cm width, 60 cm depth and 65 cm height. Even with its 4-pi 60mm detector shield the instrument weighs less than 100 kg. Another unique feature of 300 SL is that the vials are placed on trays that accommodate 7ml and 20ml vials. The trays can be used in sample preparation instruments such as liquid handling stations or cell harvesters.

The 300 SL also offers optional features such as alpha/beta separation, cooling to 15°C, active guard for background reduction or external standards for traditional quench determination.

Finally, the 300 SL is a truly innovative instrument that has attracted immense interest and LabLogic will be demonstrating the instrument over the coming months. If you would like to see how the 300 SL would add value to your laboratory, then please contact LabLogic ([solutions@lablogic.com](mailto:solutions@lablogic.com)) for further details.

#### Contact Information

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phone: +44 114 266 7267

email: solutions@lablogic.com

web: www.lablogic.com

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## **New Power Meter from Lasermet**

Lasermet, world experts in laser safety solutions, have announced the launch of their new ADM-1000 advanced laser power meter. With market-leading rise times, this advanced instrument offers laser users excellent power-measuring performance combined with the ease of using a hand-held power meter, all at an affordable price - for more information see -

[www.lasermet.com/laser-power-energy-meters.htm](http://www.lasermet.com/laser-power-energy-meters.htm)

The specialist design team at Lasermet developed the ADM -1000 in response to customer demand for a laser power meter with better quality and performance - one that is truly responsive, accurate, stable and easy to use.

The result is a convenient hand-held power meter with a response rate that is effectively instantaneous (700ns) and the ability to make consistent, accurate measurements of peak and average power across a wide range of wavelengths and power levels. For pulsed laser users, the ADM-1000 offers the precision to measure and display waveforms up to 400kHz.

The hand-held Advanced Digital Meter can be used in conjunction with any of the Lasermet detector heads. It provides clear digital and graphical oscilloscope display modes and a full illuminated numeric keypad for fast, easy control and data entry.

There are a variety of compatible high-performance photodiode and thermal heads to choose from depending on the laser characteristics and type of measurements to be undertaken. Standard Photodiode heads are available in standard, UV-and IR-enhanced models and are fitted with integrating spheres to eliminate reflections and allow easy alignment and highly accurate measurement. A Compact Photodiode head is also available for use in confined spaces.

Thermal Heads include Lasermet's patented speed-up circuitry giving a rise time of 0.1 sec, effectively instantaneous when used for laser tuning. The problems of drift & thermal interference often associated with thermal heads have been massively reduced through Lasermet's patented advanced integrated stabilisation circuitry.

This versatile instrument has a wide variety of applications including production calibration, automatic laser stability testing and pulsed laser characterisation.

Paul Tozer, Managing Director Lasermet Ltd

## **NEWS from SRTS Ltd**

Niall Higbee has left University of Oxford and joined SRTS Ltd as a consultant RPA. He joins Don Morecombe, Sheila Liddle, Stephen Green, Robin Thomas and Monty Guest in offering a range of radiation safety courses and RPA services, including to the universities of Warwick, East Anglia, Essex and Kent.

(His new contact details are:

Address: Daisy Cottage, 4 Ferry Road, Orford, Suffolk, IP12 2NR

Mobile Tel: 0786 090 1442 )

## NEWS from GLOBAL DOSIMETRY

As of May 1<sup>st</sup> 2008 Global Dosimetry Solutions (GDS) has been rebranded as **Mirion Technologies Dosimetry Services Division** but is retaining its existing legal name for the time being for contractual reasons. GDS became part of Mirion in 2006 and the company has recently reorganised itself into 5 divisions and these are as follows:-

- **Health Physics Division** : Active and passive dosimeters, contamination and clearance monitors, radiation survey meters and biochemical identifiers
- **Radiation Monitoring Systems Division**: Process monitors, post-event monitors and area monitors
- **Sensing Systems Division**: electrical penetrations and neutron flux detectors
- **Dosimetry Services Division**: dosimetry services and consulting
- **Imaging Systems Division**: Radiation tolerant cameras, pyrometers and spyrometers.

Ron Deardon will still be our contact in the UK and we will be able to find out about the enhanced range of products and services that he can provide us with at the Liverpool conference in September. If you can't wait till then find out more about Mirion on their newly designed website at – [www.mirion.com](http://www.mirion.com)

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### SNIPPETS –from Mark Ramsey

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Couple of bits of resource you might be interested in. The first can be found here:

<http://www.radiationanswers.org>

The site was written by Health Physics Society (US) members. The section 'Controversy' found at the following link provides an easy to read explanation of the issues:

<http://www.radiationanswers.org/radiation-and-me/controversy.html>

Then for a bit of amusement / shock, check out the following resource here:

<http://www.environmentalgraffiti.com/offbeat-news/10-radioactive-products-that-people-actually-used/1388>

Nothing new in this link but it is a nice summary in one place regarding the use of Radium. Check this out (owwwch):

#### **The Scrotal Radiendocrinator**

The Radiendocrinator was intended to be placed over the endocrine glands to invigorate sexual virility and consisted of seven radium soaked pieces of paper, about the size and shape of a credit card, covered with a thin piece of clear plastic and two gold-wire screens. Men were advised to place the instrument under the scrotum at night like an 'athletic strap'. The inventor of the Radiendocrinator (and Radithor), William J. Bailey, had so much faith in his products he claimed not only that he regularly used them, but that he had drunk more radium water than any living man - he died in 1949 of bladder cancer!

## Laser Safety News

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### Laser Safety Matters

The newsletter of the Laser Safety Forum has just been published with a review of last years annual meeting and a final chance to register for this years meeting. This year there is no clash with the AURPO Conference so you can attend both! The Laser Safety Forum 2008 is to be held on Tuesday 9<sup>th</sup> September with the pre-forum dinner on the evening before. As usual the meeting will be held at Loughborough. Delegate numbers are restricted to 80 and you have to book by 4<sup>th</sup> August. Visit [www.hpa.org.uk/laser](http://www.hpa.org.uk/laser) for booking details. Standard rate attendance fee is £184 and this reduces to £135 for former participants.

### BS EN 60825 Corrigendum – IEC Statement

Due to the inconsistency between the new IEC 60825-1:2007 and the current IEC 60825-2, the previous edition of IEC 60825-1 (IEC 60825-1:1993 and its amendment 1 (1997) and amendment 2 (2001)) should be used for calculating or measuring hazard levels of optical fibre communication systems using IEC 60825-2:2004, incorporating amendment 1:2006. This instruction will remain valid until a new version of IEC 60825-2 is published.

### Laser Accident at Rave

At an open air festival near Moscow when an outdoor rave party was forced indoors because of heavy rains somebody did not realise that the powerful ‘light up the sky’ lasers were just for outdoor use. Dozens of partygoers ended up being partially blinded after a laser light show burned their retinas, said Russian health officials. 29 people reported to two hospitals suffering from retinal burns with up to 80% loss of vision.

## Transport Matters

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DfT have responded to some queries from SRP that came out of discussions from the November 2007 Transport Meeting. Of particular interest to members are the following items. A full report on feedback from the meeting can be found on the SRP website.

### Re-use of packaging permitted

People had queried whether ‘single use’ packaging could be re-used if it was in an as new condition. The response was that the consignor must certify that the packaging meets the regulatory requirements for the contents he is consigning. This implies some sort of inspection to confirm that the packaging is undamaged and fit for purpose. It is considered that re-consignment in a ‘single use’ package which demonstrably meets all the requirements of the regulations would not be a breach of the regulations.

### Source Security

It was questioned whether in the present climate placarding of vehicles with the radiation trefoil was still a good idea. This has been examined by IAEA and EC and decided that the safety implications far outweigh the risk of malicious action and that placarding will be retained.

### Exempt Material

Users were reminded that although a package may be exempt from CDG2007 other requirements of regulations such as IRR99 may still apply.

## The 2007 Recommendations of ICRP (ICRP 103)

There have been no dramatic changes in the recommendations emanating from ICRP and the principal conclusions and changes can be summarised as follows:-

- No changes to main dose limits or dose constraints
- Revision of risk factors
- Revision of radiation weighting factors
- Revision of tissue weighting factors
- No change in approach to supervised and controlled areas
- New publication on 'scope' (ICRP 104) will address issues of exclusion and exemption
- Protection of the environment

The changes in the various risk factors and weighting factors are summarised in the three tables below.

| <b>Nominal Risk Coefficients for Stochastic Effects(<math>10^{-2}\text{Sv}^{-1}</math>)<br/>after exposure to radiation at low dose rates</b> |               |                   |                         |                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------|-------------------------|-----------------|
|                                                                                                                                               | <b>Cancer</b> |                   | <b>Heritable effect</b> |                 |
|                                                                                                                                               | <b>2007</b>   | <b>Previous</b>   | <b>2007</b>             | <b>Previous</b> |
| <b>Adult*</b>                                                                                                                                 | <b>4.1</b>    | <b>4.0 or 5.0</b> | <b>0.1</b>              | <b>0.8</b>      |

The table above shows how some of the main risk factors have changed. These can also be expressed in other ways that people may be more familiar with –

Adult fatal cancer risk at 4.1 is approx 0.04/Sv which is equivalent to 1 in 25,000/mSv.

Heritable effect at 0.1 = 1 in 1,000,000/mSv

\*NB in ICRP 60 fatal cancer risks were quoted for general population (5.0) and adult workers (4.0) whereas just one figure for adults is given in the current document.

| <b>Radiation Weighting Factors</b>   |                 |                 |
|--------------------------------------|-----------------|-----------------|
|                                      | <b>2007</b>     | <b>Previous</b> |
| <b>Gammas, x-rays,<br/>electrons</b> | <b>1</b>        | <b>1</b>        |
| <b>Protons</b>                       | <b>2</b>        | <b>5</b>        |
| <b>Alphas</b>                        | <b>20</b>       | <b>20</b>       |
| <b>Neutrons</b>                      | <b>2.5 - 20</b> | <b>5 - 20</b>   |

The radiation weighting factor for neutrons has been reduced to 2 from 5 and the factors for neutrons are now in a range from 2.5 to 20 and form a continuous curve as a function of neutron energy rather than the step changes that were recommended before. There are discussions about the treatment of tritium and auger electrons but for simplicity they have stuck with '1' for radiation protection purposes. However they do suggest that other values could be used in assessing doses where detailed knowledge of the chemical form and whether the material is likely to be incorporated into DNA are known.

| <b>Tissue Weighting Factors (<math>W_T</math>)</b> |                              |                              |
|----------------------------------------------------|------------------------------|------------------------------|
| <b>Tissue or organ</b>                             | <b><math>W_T</math> 2007</b> | <b><math>W_T</math> 1990</b> |
| <b>gonads</b>                                      | <b>0.08</b>                  | <b>0.20</b>                  |
| <b>bone marrow (red)</b>                           | <b>0.12</b>                  | <b>0.12</b>                  |
| <b>colon</b>                                       | <b>0.12</b>                  | <b>0.12</b>                  |
| <b>lung</b>                                        | <b>0.12</b>                  | <b>0.12</b>                  |
| <b>stomach</b>                                     | <b>0.12</b>                  | <b>0.12</b>                  |
| <b>breast</b>                                      | <b>0.12</b>                  | <b>0.05</b>                  |
| <b>bladder</b>                                     | <b>0.04</b>                  | <b>0.05</b>                  |
| <b>liver</b>                                       | <b>0.04</b>                  | <b>0.05</b>                  |
| <b>oesophagus</b>                                  | <b>0.04</b>                  | <b>0.05</b>                  |
| <b>thyroid</b>                                     | <b>0.04</b>                  | <b>0.05</b>                  |
| <b>skin</b>                                        | <b>0.01</b>                  | <b>0.01</b>                  |
| <b>Bone surface</b>                                | <b>0.01</b>                  | <b>0.01</b>                  |
| <b>remainder</b>                                   | <b>0.12</b>                  | <b>0.05</b>                  |

The table above compares the new tissue weighting factors with the old ones. It can be seen that new radiation detriment values and tissue weighting factors have been proposed with the most significant changes relating to gonads, breast and remainder.

The 2007 recommendations are well presented with useful summaries comparing the 1990 and 2007 recommendations and summaries of principal conclusions and recommendations. It is therefore straightforward to follow and it allows contains useful annexes on the information that forms a basis of the risk estimates and the quantities used in radiological protection.

### **ICRP Publication 104**

This Publication on the 'Scope of Radiological protection Control Measures' has just been released and I hope to cajole somebody in to writing a review of it for the next issue of the newsletter.

# IAEA PUBLICATIONS

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The IAEA is pleased to announce the publication of three new books on nuclear waste management and two on decommissioning:-

## [The Management System for the Disposal of Radioactive Waste](#)

[Safety Standards Series No. GS-G-3.4](#)

The objective of this Safety Guide is to provide guidance on the development and implementation of management systems for all phases of radioactive waste disposal facilities and related activities, with a description of how to apply the requirements detailed in The Management System for Facilities and Activities, IAEA Safety Standards Series No. GS-R-3, to the activities and facilities associated with waste disposal.

[STI/PUB/1330, 75 pp.; 0 figures; 2008, ISBN 978-92-0-102108-3, English. 25.00 Euro. Date of Issue: 30 June 2008.](#)

## [The Management System for the Processing, Handling and Storage of Radioactive Waste](#)

[Safety Standards Series No. GS-G-3.3](#)

The objective of this Safety Guide is to provide guidance on the development and implementation of management systems for the pretreatment, treatment, conditioning and storage of radioactive waste, with a description of how to apply the requirements of the management system for facilities and activities, IAEA Safety Standards Series No. GS-R-3, to the activities associated with producing a packaged waste form for storage and disposal.

[STI/PUB/1329, 69 pp.; 1 figures; 2008, ISBN 978-92-0-102008-6, English. 25.00 Euro. Date of Issue: 30 June 2008.](#)

## [Fission Product Yield Data for the Transmutation of Minor Actinide Nuclear Waste](#)

This publication reports on a Coordinated Research Project (CRP) devoted to the evaluation of fission yields for direct application in studies of the transmutation of nuclear waste. Its main emphasis was on the development of adequate systematics and models for the calculation of energy dependent fission yields up to 150 MeV incident neutron energy. A benchmark exercise revealed the true worth and predictive capabilities of the systematics and theoretical models developed. These methods of analysis have the potential to give reliable predictions after implementation of the improvements suggested in this report. A brief introduction and the various studies undertaken by individual participants are given at the beginning of this publication, followed by a detailed description of the resulting overall achievements, conclusions and recommendations of the CRP and a summary of the benchmark exercise and results. Additional material is included on a CD-ROM, including compilations of the fission product yields, unedited papers and all details of the benchmark exercise.

[STI/PUB/1286, 341 pp.; 334 figures; 2008, ISBN 92-0-115306-6, English. 65.00 Euro](#)

## [Managing the Socioeconomic Impact of the Decommissioning of Nuclear Facilities](#)

[Technical Reports Series No. 464](#)

This report discusses the identification and management of the socioeconomic consequences of final shutdown and decommissioning of a nuclear facility, as they may affect the facility workforce and the local and wider communities. Factors that affect the severity of the impact are described in terms of influences such as facility type, location and the circumstances leading to final shutdown. An approach to managing and investigating these consequences is presented. The importance of planning, communications, consultation and investment are emphasized. Responsibilities for staff usually lie with the facility management and responsibilities for the community with government organizations; however, effective teamworking between them is vital. International experience is presented to illustrate the advice offered. [STI/DOC/010/464, 136 pp.; 21 figures; 2008, ISBN 978-92-0-110907-1, English. 45.00 Euro. Date of Issue: 4 June 2008.](#)

## [Managing Low Radioactivity Material from the Decommissioning of Nuclear Facilities](#)

[Technical Reports Series No. 462](#)

The large volumes of low activity materials arising in decommissioning may be disposed of as low level waste despite the existence of other options which may be more environmentally or economically attractive. This report identifies the issues to be addressed in finding and implementing the most appropriate strategy for dispositioning decommissioning materials, based, where possible, on actual project experience in Member States. A range of disposal and recycling or reuse options are considered.

STI/DOC/010/462, 201 pp.; 46 figures; 2008, ISBN 978-92-0-109907-5, English. 55.00 Euro. Date of Issue: 18 April 2008.

For additional information, or to order a book\*, please contact:

[sales.publications@iaea.org](mailto:sales.publications@iaea.org), fax: +43 1 2600 29302 / tel.: +43 1 2600 22529 /

<http://www.iaea.org/books>

To request a hard copy of the 2008 IAEA books catalogue, email [sales.publications@iaea.org](mailto:sales.publications@iaea.org) .

## OTHER PUBLICATIONS

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Guidance on the application of dose coefficients for the embryo, fetus and breastfed infant in dose assessments for members of the public

Health Protection Agency – RCE-5

[http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb\\_C/1207121671073](http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1207121671073)

Radioactivity in Food and the Environment, 2006 – RIFE - 12

<http://publications.environment-agency.gov.uk/pdf/GEHO1107BNLG-e-e.pdf>

Static Magnetic Fields

Health Protection Agency – RCE-6

[http://www.hpa.org.uk/webc/HPAwebFile/HPAweb\\_C/1211184025757](http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1211184025757)

A Study on the Transport of Naturally-Occurring Radioactive Material

Health Protection Agency – RPD-036

[http://www.hpa.org.uk/webc/HPAwebFile/HPAweb\\_C/1208850195672](http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1208850195672)

Internal dosimetry and tritium – the ICRP position

Roger Cox et al

Journal of Radiological Protection, Vol. 28, No. 2, June 2008

New ICRP recommendations

A D Wrixon

Journal of Radiological Protection, Vol. 28, No. 3, June 2008



**Association of University Radiation Protection Officers  
Annual Conference and AGM  
University of Liverpool, 2nd – 4<sup>th</sup> September 2008**

| <b>Registration fee</b>                |      | <b>self</b> |
|----------------------------------------|------|-------------|
| Members of AURPO and partner societies | £125 |             |
| Non-members                            | £155 |             |
| Retired members                        | £0   |             |
| Single Day ( <i>non-resident</i> )     | £100 |             |

| <b>Accommodation &amp; Meals</b>                      |               | <b>self</b> | <b>partner</b> |
|-------------------------------------------------------|---------------|-------------|----------------|
| Mon 1 <sup>st</sup> September Bed and Breakfast       | £55           |             |                |
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| Tue 2 <sup>nd</sup> September Dinner                  | £20           |             |                |
| Tue 2 <sup>nd</sup> September Bed and Breakfast       | £55           |             |                |
| Wed 3 <sup>rd</sup> September Lunch/Coffee/Tea        | £15           |             |                |
| Wed 3 <sup>rd</sup> September Conference Dinner       | £30           |             |                |
| Wed 3 <sup>rd</sup> September Bed and Breakfast       | £55           |             |                |
| Thu 4 <sup>th</sup> September Lpool Tour +lunch       | £25           |             |                |
| <b>For AURPO Members only</b>                         |               |             |                |
| <b>Annual subscription (members £20, retired £10)</b> |               |             |                |
|                                                       | <b>Totals</b> |             |                |

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(Please circle as appropriate) **Y / N**

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For payment by **BACS** (Banker Automated Clearing Services) the following are the Bank details for AURPO (please send confirmation to Dr P.Cole, Conference Organiser, at address below if you are using this method of payment):

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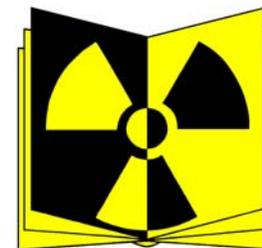
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