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

August 2010 # AURPO NEWSLETTER **Editor T.J.Moseley**

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EDITOR'S INTRODUCTION

Timing of editions has slipped a bit this year – but better late than never! John Makepeace announced and circulated AGM announcement in May, a reminder can be found on page 4. The schedule for the Conference presentations is given on page 5. Interest in this year's conference from exhibitors and delegates has been considerable so I look forward to seeing many of you in Cambridge this September.

Last time I promised a letters section but there is no 'letters' in the newsletter this time because nobody has written any and I didn't get round to writing any 'anon' ones myself!

Lots of news again on EA items and most of it is good news as EA have clearly demonstrated in their actions that they are listening to the concerns of small users and progress has been made in many areas. There is always still room for improvement though - EA want to standardise on 'Groups' that can be used in open source permits (something I support) but the choice of groups they have come up with are not the best (see pages 10-11). As one would expect, I have come up with my own alternatives in collaboration with a colleague from the hospital side. Please let me know what you think asap, because once EA finalise this it is unlikely they will want to change the groupings in the near future and if we are not careful we will be left with something that is not suitable. (PS EA did not consult on appropriate groups.)

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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 and is a good grounding for a university RPO. The course is benchmarked against the HSE criteria for the 'Core of Knowledge' required for a Radiation Protection Adviser.

- 9 month programme commencing September 2010
- 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 2009/2010 course is 31st August 2010.

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

You should have all now received information about our forthcoming Annual Meeting in Cambridge. Many thanks to David Plumb and his team for all the work they have done in planning and making the arrangements. Also thanks as always to our Scientific and Technical Committee for all their hard work in putting together the scientific programme which I think you will agree looks excellent. Our theme for this year is 'Management of Waste and Radioactive Substances Use" - I hope to see you all there.

For any new members who have never attended a conference but are considering attending this year, I am sure you will find it of great benefit both scientifically and socially. It provides an excellent way to meet fellow members, hear lectures by experts in the field and discuss equipment and service requirements with exhibitors.

For those of you who would like to take along your spouses or partners, David has made provisional arrangements to meet your accommodation needs. I am sure that they will also, along with ourselves, enjoy the varied social programme which David has arranged for us.

Plans have already been made for future conferences - dates for your diaries are: 6th –8th September 2011 in Newcastle, where we will celebrate the 50th anniversary of AURPO, and 4th – 6th September 2012 in Preston. Offers are now being sought for 2013 and beyond so if anybody out there would like to volunteer, we would be very happy to hear from you.

It is always very pleasing to welcome aboard new members to the Association and this year has again seen a steady increase in membership. Once again I would like to welcome all those who are newcomers to the Association and I hope to meet some of you in Cambridge.

It is also time 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 do come forward to offer help in running the businesses of our association. You will also see the call for AGM 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 your offer and broaden the list of volunteers even more.

May I wish you all a happy and relaxing holiday and hope to see you in Cambridge.

Sonia Nuttall
President of AURPO
17th June 2010

49th Annual General Meeting of AURPO

In accordance with Section 6(a) of the AURPO Constitution, notice is hereby given of the above, to be held at:

16.45 hrs on Tuesday 7th September 2010

at Downing College, University of Cambridge

Any motions, duly proposed and seconded, must be received, by the Honorary Secretary, by 17th August 2010. All papers pertaining to the meeting will be available at the meeting.

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Nominations are invited for membership of the Executive Committee of the AURPO.
All nominations, duly proposed and seconded, must be agreed by the nominee and must be received by the Honorary Secretary by 17th August 2010.

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Suggestions are also invited for members to be considered for membership of the Scientific and Technical Committee.

This announcement was made by Hasnet-Rad and an e-mail to members on 8th May 2010, at which time it was also posted on the AURPO web-site.

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Honorary Secretary AURPO
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AURPO Scientific Meeting Cambridge 7th and 8th September 2010

Tuesday PM – Professional update sessions (TM to Chair)

14.00	Official Welcome to Cambridge	
14.10-15.00	New BSS and HSE Issues	Gareth Thomas, HSE
15.00-15.30	Break	
15.30-16.00	AORD regulations and Laser Safety Management in Universities – Graham Hart- Independent RPA	
16.00-16.30	Radon Measurement Techniques – Peter Jewell, Univ of Bath	

Wednesday Scientific Program on –
'Management of Waste and Radioactive Substances Use'

9.00	Introductions – AM Chair : Richard Harrison
9.05 - 9.50	Management Conditions under EPR2010 Permits and the Duty of Care – Dr Chris Englefield, RSR Technical Services Manager EA
9.50-10.20	The use of BAT in the non-nuclear sector – Amber Bannon, EA, RSR Technical Specialist
10.20-11.00	Break & exhibition
11.00-11.30	Non-nuclear OPRA and the Compliance Classification Scheme - Peter Brember, EA, RSR Technical Services
11.30-12.00	Management of Waste and Decay Storage – Mark Bradley, Univ of Oxford
12.00-12.30	The work of European Alara Network and OTHEA (IRID database replacement) – Dr Peter Shaw, HPA
12.30-14.00	Lunch and exhibition.
14.00	PM Chair : Peter Cole
14.00-14.30	Critical Group Dose Assessments for Small Users – Dr Cairan McDonnell HPA
14.30-15.00	Management of Records – Dr Chris Bull, Univ of Sheffield
15.00-15.30	Break
15.30-16.00	Designation of Areas – Dr Alan Muir, GSK
16.00-16.30	Management of Sealed Sources – cradle to grave – Jon Fear, Imperial College

T.J.Moseley (Chairman of STC)
14.06.2010

HSE – Latest RP News

The latest edition of Radiation Protection News has recently been issued and contains the following 8 articles.

2nd prosecution of the Royal Free Hampstead NHS Trust
http://www.hse.gov.uk/radiation/rpnews/rpnews280610.htm?ebul=radiation/06/jul-2010&cr=1#a1

Compliance with IRR99: Action with professional organisations for dental practices and chiropractors
http://www.hse.gov.uk/radiation/rpnews/rpnews280610.htm?ebul=radiation/06/jul-2010&cr=2#a2

Health and safety guidance now free online
http://www.hse.gov.uk/radiation/rpnews/rpnews280610.htm?ebul=radiation/06/jul-2010&cr=3#a3

Report on incident involving 'premature lock out' on Techops 660 Gamma Radiography Source Projector
http://www.hse.gov.uk/radiation/rpnews/rpnews280610.htm?ebul=radiation/06/jul-2010&cr=4#a4

Inspections of nuclear density gauge users
http://www.hse.gov.uk/radiation/rpnews/rpnews280610.htm?ebul=radiation/06/jul-2010&cr=5#a5

RPA certification for work in Ireland
http://www.hse.gov.uk/radiation/rpnews/rpnews280610.htm?ebul=radiation/06/jul-2010&cr=6#a6

Security screening for appointed Doctors and Radiation Protection Advisers
http://www.hse.gov.uk/radiation/rpnews/rpnews280610.htm?ebul=radiation/06/jul-2010&cr=7#a7

If you would like to be emailed directly with RP News you can sign up here:

http://www.hse.gov.uk/radiation/ebulletin.htm?ebul=radiation/06/jul-2010&cr=9

FEEDBACK WANTED - Tell us what you think of RP News

Email your comments to: rpnewseditor@hse.gsi.gov.uk

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EA & DEFRA MATTERS

SULG -34 10th June 2010
Update on EPR 2010 Concerns

Charging Scheme 2010-11

Surrender charges

RSR blame the requirements of EPR for the need for surrender charges. These can be partly explained by the fact that in future there will be a partial refund (pro-rata) of subsistence charges where a permit is surrendered/revoked part way through a year. The variation in surrender fee charges in part then reflects the variation in subsistence charges. For example if you just had a Cat 5 permit with a subsistence charge of £300 and gave it up half way through the year you would be entitled to a refund of £150 but would be subject to a surrender charge of £125 - so you would be £25 in credit. Why do they have to make things so complicated? Why bother refunding part of the subsistence charge? Surrender charges can be much higher, up to £2470, when work involves possible contamination of the site. There is however a clause in the charging scheme on 'Abatement of Charges' (p 81). Here the EA state that it can 'waive or reduce any charge specified in the scheme it considers to be significantly disproportionate in a particular case, with regard to the actual costs and expenses incurred by the Agency'. Indications are though that you will be jolly lucky to get any 'Abatement of Charges'.

There was the question of what constitutes a partial surrender, and EAs interpretation of this is that it does mean that when part of a large site ceases to be used for radioactive substances use it would be a partial surrender. However, in these circumstances there would be no obligation on the site operator to ask or give notice of a partial surrender – *so we can forget about that then!* I can't see anybody volunteering £2470 each time there is a change in usage of part of a campus. Please note though that it is important that you keep good records of all decommissioning surveys, so that should there come a time when a site ceases to be used and you need to surrender a permit for the whole site you have all the necessary environmental reports to hand to satisfy the Agency.

Variation charges

The EA accepted the arguments in relation to the unfairness of the charges for HASS source holders who wished to amend their permit to include additional non-HASS sources. In future as well as having HASS sources and other large sources listed on your permit you will be able to have an additional category (equivalent to Cat 5) for other small sources. This will give the permit holder the same flexibility as a Cat 5 permit holder. The additional clause should be along the lines -

'In addition to the named sources listed the permit holder can hold any number of Cat 5 sources up to the Cat 5 A/D limit of 0.01.'

If you are getting a new HASS permit (or one for sources of similar potential hazard) make sure you get this added in. Unfortunately for existing HASS permit holders it looks like we will have to pay £1280 to get this amendment added to our permits – still we only have to ask for it once!

Compliance Classification Scheme

A sympathetic hearing was given to our concerns and EA have been actively looking at what has been happening with the issue of warning letters in the past year and a number of CCS3

non-compliances have been downgraded. People need to question non-compliance ratings with their inspector if these seem to be unfair. In the future however there will be closer scrutiny by EA Technical Services to ensure consistency is maintained. With the introduction of the RASCAR reports (inspection reports which will comment positively on good management as well as detailing any non-compliances) transparency will be greatly improved and minor infringements will be put in their proper context. There may however be more CCS4 non-compliances recorded for minor indiscretions as a single incident of a missing label or record keeping error could be recorded as a non-compliance. However, there would not be multiple recordings of a specific non-compliance but repeat failings in a particular area could warrant a general management non-compliance.
Whilst these new arrangements are settling in there will be no implementation of the 'subsistence charge multiplier' part of the charging scheme. So this will not be used this year and possibly not next year either. It should be borne in mind though that a record of poor performance will influence the Agency if a serious non-compliance caused them to consider tougher regulatory action.

Non-nuclear RSR OPRA

We are grateful for the progress that has been made in making the non-nuclear OPRA more equitable and scientific and thanked the EA for listening to our concerns. Although there is room for further improvement in setting an equitable low level boundary it is unlikely that this will be looked at again until the new Exemption Order has been finalised and the affect of that has been assessed. Also there is a limit to how much resource the EA can devote to RSR issues when non-nuclear is only 0.5% of EA activities.

Status of RSA93

In England and Wales most of RSA93 was revoked by EPR2010 it was just that some of EAs early statements on this were not particularly clear and the way that regulations are structured these days does not help. In the past you look up revocations or repeals and it refers you to the previous regulations that have been rescinded. Now it refers you to a schedule elsewhere in the regs that you need to wade through. So if you look up Reg 107 (Consequential amendments)it refers you to schedule 26 and item 11 in this schedule deals with RSA93 matters. Regulation 109 dealing with repeals refers you to schedule 28 and it is here that you will find references to RSA93 repeals and repeals of HASS regs etc. Bob Russ informed us at SULG that the remaining bits of RSA93 (for England and Wales) that are still valid are: section 8 (4-7); section 11 (1-2);section 15 (1-2), section 40, section 44 (1, 3-5); section 47; sections 49-51; schedule 3,part 1,paras1-8 and 10 (para 9 amended), schedule 5.

Other matters from SULG

Application forms for Permits
Not all parts of the application form are available on the EA website (just A, F and B1 at present). Other parts are available in draft form from your EA inspector – so just ask your inspector for what you need when making a new application.
Where a minor variation is requested there will be no consolidation of existing permits at this stage.
Lists of groups of radionuclides are to be rationalised and used in new permits (*see report from EPR Workshops and article on page 10*).

EO Review
Stakeholder engagement meetings are planned for later in the summer/early autumn. There will be exclusion values for solids but no exclusion values for aqueous liquids (except for

NORM). NORM values likely to be based on potential dose to the public of 300uSv/y. Exclusion for low volume NORM (up to 10k tonnes) likely to be 5Bq/g (head of chain).

Qualified Expert

Chris Englefield nearly there with a document on this, consultation should start in the autumn.

DfT Update

Audits continuing with hospitals and couriers audited as well as NDG people. Transfer of RAMROAD section to new NRC will not take place until next April because of delays in legislation.

Civil Sanctions

Initially these will not be applicable to RSR matters as the new policy gets bedded in but will eventually be applied to RSR.

SRP/EA EPR Workshops

Three meetings were held around the country in early July. For those of us who participate in SULG it was largely a refresher in why we have got EPR, what it covers and what changes it has made.
One of the main reasons for including RSR in EPR is said to be that radioactive substances use should not be treated differently form any other environmental hazard (*I'll remember that one*). EPR makes it easier to transpose EU Regs into UK regs. EPR implements HASS Directive and part of BSS. BAT has replaced BPM and BPEO but has not changed what is expected of operators. Transfer of waste to an unspecified destination is now permitted.
A strong clear message of the meeting was that EPR 2010 for RSR means no change: no change in regulator, scope or standards of regulation. There will be three types of permit:-

- Open source and waste (publicly available), and
- Sealed source (Cat 5 standard conditions, or
- Sealed source (security – HASS or similar)

You can only have one sealed source permit for your premises.
The new RASCAR inspection reports should be issued within 10 working days of the inspection and they will go tot the site contact. Transfer of wastes to any authorised disposer is permitted but consignees will still have a duty to notify Local Authorities of any new waste consignor used.There is an Emergency defence provision for breach of a permit condition, but EA need to be informed promptly and action taken to avoid damage to human health and minimise pollution.
Advertising of new applications (open source work only) for permits is now required. This will be done by EA on their website.
Of most concern to me was the fact that they were going to limit the radionuclide groupings that were to be permitted in the new permits and these were listed in draft guidance for form EP-RSR-C4 HTA. I had no problem with them limiting the number of groupings but thought that users should have been consulted over what were the most appropriate groupings for the majority of users. I have since submitted alternative suggestions to EA on this topic (*see – 'Use of Groups in EPR open source permits' below*). If other users have strong views on this please let me know and I can feed them into EA.

T.J.Moseley

Use of ‘Groups’ in EPR open source permits

In EP-RSR-C4 HTA Version 1/7/2010 (*draft guidance document to C4 part of application form*), section 3, there is a section of the permitted groups that will be allowed in the new style permits. These are listed as follows:-

1. Total alpha emitting radionuclides
2. Total beta/gamma emitting radionuclides
3. Total positron emitting radionuclides
4. Total radionuclides
5. Total beta/gamma (t1/2 <1 day)
6. Total beta/gamma (t1/2 1- 10 day)
7. Total beta/gamma (t1/2 10 days – 1y)
8. Total beta/gamma (t1/2 >1y)
9. Iodine radionuclides
10. Carbon 14, Tritium
11. Carbon-14, tritium, iodine -125, phosphorus-32, sulphur-35
12. Thorium natural
13. Uranium-depleted or natural
14. Uranium enriched

It appears that these groupings have been arrived at on the basis of what some people currently have in their authorisations rather than what would be most appropriate for the new permitting system. Also one of the key criteria in the Field Officers Handbook (April 2000) has been overlooked, that groupings must give consideration to the relative hazard of the radionuclides involved. In the past groupings have been used for a variety of legitimate reasons:-

- administrative/cost (avoidance of costly variation for one/off research study or incineration of a non-routine radionuclide) .
- Process (eg. similar behaviour /transport / partitioning of radionuclides during an industrial process such as incineration)

It is important that these factors are taken into account when setting the groups and when setting typical limits associated with the use of groupings.

Four of the groupings above are just based on half-life (items 5-8), so there could be H-3 and Co-60 together with t1/2<1year or Na-24 and Tc-99m together in t1/2 >1 day. Having groupings like this would not be in the best interests of operators as the most restrictive OPRA values would be used in determining the ratio calculated for charging.

Total positron emitting radionuclides (presumably intended for PET work) could include not only F-18, C-11 and O-15 but other positron emitters such as Na-22.

Some people may have the grouping in item ‘11’ but it is very limited for most small users and puts low toxicity radionuclides together with high toxicity radionuclides. So for OPRA based charging and Environmental Impact assessments all the permitted activity would have to be treated as if it was P-32. It would make sense therefore for the operator with such a current grouping to separate out P-32. It is not a sensible grouping.

Thorium natural is not a group and neither is enriched uranium.

The examples given of when groups can be used is misleading as it refers to ‘a few megabequerels’. It would be more appropriate to refer to ‘a few gigabequerels’ as many of us have groupings of that order.

There is no need for a ‘total radionuclides’ grouping (item 4). People who just work with very small amounts of any radionuclide could use ‘total alpha’ and ‘total beta/gamma’ categories. In any case the people who this was put in for (water companies?) will probably be working under the new EO in future.

In determining what groups should be permitted and what levels of activity should be allowed I feel that the Agency should consult with the small users over this issue so that the groupings are the ones most likely to be of use to the most users.

As a starting point for discussion I would suggest the following:-

A. Total/ other alpha emitting radionuclides
B. Total/ other beta/gamma emitting radionuclides
C. Total positron emitting radionuclides used in PET work
D. Iodine radionuclides
E. Low energy betas <0.3 MeV max beta energy
F. Other betas >0.3 MeV max beta energy
G. Weak gammas <0.3 MeV mean gamma energy
H. Other gammas >0.3 MeV mean gamma energy
I. Uranium (all isotopes inc progeny)
J. Thorium (all isotopes inc progeny)

NB All the above groupings would exclude any radionuclide individually specified.
Advantages of the above:-

- Less overlapping groups
- In A and B could have ‘total’ or ‘other’ to cover situations where one or two radionuclides may be listed individually
- Groupings of betas and gammas more closely links them to the relative hazard they present
- Restricting positron emitting radionuclides to those used in PET work
- 0.3 Mev for betas takes in C-14, S-35, P-33 and Ca-45 and corresponds to the old value from IRR85 used as a dividing line for weak betas and the harder betas that were more hazardous
- 0.3 MeV for gammas should include all the EC radionuclides and many of the photon emitters used in diagnostic nuclear medicine
- All uranium isotopes could be linked together as they have all been given the same OPRA values in the non-nuclear OPRA scheme.
- Thorium isotopes grouped separately from uranium because of several orders of magnitude greater toxicity.

T.Moseley, RPA University of Sheffield with contributions from M.Singleton, RPA Sheffield University Teaching Hospitals Trust.

OSPAR news

OSPAR welcomes reductions in radioactive discharges to the North-East Atlantic - 16 July 2010

Radioactive Substances is one of the five thematic strategies of the OSPAR Commission. Over the past decade Contracting Parties to OSPAR have put in place National Plans to progressively reduce discharges of radioactive substances and collectively monitored discharges and concentrations of indicator radionuclides and estimated radiation doses. Contracting Parties also regularly report on how they are implementing Best Available Techniques (BAT) at their nuclear installations.

In September OSPAR Ministers will launch the Quality Status Report 2010, a comprehensive overview assessment with detailed supporting evidence, setting out progress against the OSPAR Strategies. This will confirm significant progress in reducing discharges from the nuclear sector as a result of changes in practices and improved waste treatment.

Meeting in Stockholm this week, the OSPAR's Radioactive Substances Committee (RSC) welcomed the latest analysis of beta emitting radioactive substances from the nuclear sector. "Our latest figures confirm good progress in terms of a continuing improving trend towards the OSPAR objective and we have recorded the lowest total-alpha and total-beta discharges since our data collection began in the early 1990s. The discharges in 2008 were approximately fifteen times lower than in 1990", stated Bob Russ, of the Environment Agency (UK) and Chair of the Expert Assessment Panel charged with validating and interpreting OSPAR data. There are no similar reductions for tritium because abatement techniques have yet to be developed.

Mr Leif Moberg, Chairman of the RSC and Research Director at the Swedish Radiation Safety Authority said, "I am very encouraged by this progress that gives us a solid basis to address outstanding challenges in the coming years to meet agreed commitments."

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ICRP News

The draft ICRP report "Environmental Protection: Transfer parameters for Reference Animals and Plants" is now available for consultation.

Please see http://www.icrp.org/draft_environ.asp

Comments must be submitted through the ICRP web site no later than October 1, 2010.

NPL National Physical Laboratory

Metromnia

ealert

www.npl.co.uk/metromnia

Technology Innovation Fund

NPL has just launched a new Technology Innovation Fund which provides an exciting and rare opportunity to work with NPL for a fraction of the normal cost.

Three levels of support are offered to service a range of measurement issues.

Advice surgeries

Advice surgeries give you face-to-face time with NPL staff to discuss particular measurement issues. Surgeries are often held alongside other events you might be attending. The next Advice Surgery will be taking place at the Aero Engineering show, held at the Birmingham NEC on the 29th - 30th September 2010.

Consultancies

Through consultancies, NPL will provide technical help on specific issues for up to 10 days. NPL also give a level of matched funding in relation to the company's contribution, extending the consultancy term - enabling greater amounts of work to be undertaken.

Research Clubs

Research Clubs join up companies with similar problems. Companies pay a joining fee, which contributes to research time in areas dictated by the club members. Research clubs are anticipated in the following sectors - Advanced Manufacturing, Energy, Sustainability, Healthcare, Defence & Security, and Digital Economy.

Read case studies of how NPL has helped companies here.

Contact: Peter Benson

NB this is a slightly abbreviated version of NPLs Metromnia which anyone who is interested can get emailed to them from NPL by contacting the editorial team – see footnote (ED)

Nationally recognised measurement qualifications

The NPL Training Framework has been EAL accredited, enabling the dissemination of nationally recognised qualifications in measurement.

Contact: Tom Ashby

NPL at Events

Make Measurement Matter
Date: 15 September 2010
Venue: The Digital Lab at the University of Warwick

Neutron Users Club
Date: 6 October 2010
Venue: NPL, Teddington
The Neutron Users Club (NUC) acts as a focal point for discussion of the production, use and metrology of neutron fields. It aims to facilitate the exchange of information between members on research and development activities in this area and on the neutron facilities in the UK.
Contact: Stuart Humphreys

Nano-Molecular Analysis for Emerging Technologies IV
Date: 9-10 November 2010
Venue: NPL, Teddington
Surfaces and interfaces are critically important to products and devices in healthcare and personal care including drug delivery, diagnostics, regenerative medicine, medical devices, self-assembly, anti-microbial surfaces, cosmetics, hair care and detergents. These complex systems present their own challenges for analysis and characterisation.

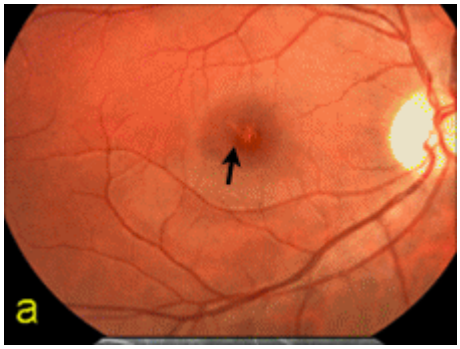
This meeting will focus on both the frontier science in these novel systems as well as recent advances in analytical techniques to characterise them including XPS, SIMS, AFM, SPM, SPR, near field optical methods, optical trapping, ambient mass spectrometries and MALDI.
Contact: Stuart Humphreys

Airborne Radioactivity Monitoring Users Group (ARMUG)
Date: 16 November 2010
Venue: NPL, Teddington
The NMS Airborne Radioactivity Monitoring Users' Group (ARMUG) provides a forum for discussion of all aspects of air monitoring for radioactivity, including monitoring for particulate or gaseous radioactivity at environmental, workplace and process control levels.
Contact: Stuart Humphreys

Ionising Radiation Metrology Forum (IRMF)
Date: 17 November 2010
Venue: NPL, Teddington
The IRMF facilitates the exchange of information about UK calibration and testing facilities, for those who must comply with the requirements of the current Ionising Radiations Regulations.
Contact: Stuart Humphreys

More NPL events **www.npl.co.uk** **Contact us** *The Editorial Team NPL*

Laser pointers 'pose danger to eyes'



Arrow indicates laser damage to teenager's retina.

Hand-held laser pointers can cause serious eye damage if used inappropriately, doctors have warned. Medics from the Royal Liverpool Hospital and Manchester Eye Hospital spoke out after treating a teenager who had shone a laser pointer into his eyes. He suffered burns and retinal damage, the British Medical Journal reported.

The Health Protection Agency said it had received reports of retinal damage and recommended that only pointers with limited power should be sold. A spokesman said: "The Health Protection Agency has not been made aware of any injuries to the surface of the eye caused by laser pointers - such injuries are usually caused by persistent rubbing of the eye after the laser beam has been shone into the eye.

"Clinicians have, however, made the HPA aware that scotomas - retinal injuries causing abnormal vision - have been caused by high power green laser pointers.

"The HPA recommends that laser pointers generally available to the public should be restricted to less than 1 milliwatt as no such injuries have been reported at this power."

The teenager in question had bought a green, diode laser pointer over the internet and, while playing with it, shone the laser beam into his eyes. Tests showed that the youngster had central scotomas, or dark spots, in his vision. He was treated by Dr Kimia Ziahosseini and colleagues from the two hospitals.

“Although his vision has now returned to normal, he is at risk of developing problems later on in life as a result of the damage to his retina” said Dr Kimia Ziahosseini.

After the incident, they found that the teenager's clearness of vision was poor. Tests revealed burns to the surface of the eye and disturbances to the retina. Two months later, his vision had improved but some retinal damage remained.

HPA advise that laser products sold to the public for use as laser pointers should be restricted to devices with laser power less than 1 mW. The laser pointers should also be accompanied by sufficient information on how to operate them safely, the HPA says.

From a BBC News Report 9/06/2010

IRPA NEWS

- IRPA President, Ken Kase, has prepared a brief mid year summary of recent and upcoming IRPA activities.

- Two IRPA Congresses have been held in the last couple of months - The 3rd Asian and Oceanic IRPA Regional Congress in Tokyo and the 3rd European IRPA Regional Congress in Helsinki. Summaries of these meetings are available on the website.

- Radiation protection specialist, Dr Hans Menzel, has recently been chosen Chairman of the ICRU. More detail about his selection has been posted.

- The IRPA12 Proceedings are now available (see Reports and Documents page)

- A new ICRP draft report - 'Environmental Protection: Transfer Parameters for Reference Animals and Plants' is now available for public consultation. The deadline is 1st October.

- The US Health Physics Society has developed a position statement in support of the IRPA Guiding Principles for RP professionals on Stakeholder Engagement. The HPS has offered this statement as an example to other IRPA Associate Societies that may wish to develop similar position statements in support of the IRPA Guiding Principles. It can be found on the Associate Societies News page.

The above items and the latest updates can be found on the IRPA website –

http://www.irpa.net

NEWS from DfT

The IAEA Regulations for the Safe Transport of Radioactive Materials are being reviewed and a consultation document has been issued to IAEA Member States for 120 day review. A table of changes from the 2009 edition of TS-R-1 can be found by following the link below.

http://www-ns.iaea.org/committees/files/TRANSSC/903/TableofchangesofTSR12009vs20xxdraft1.1finalchange.doc

The draft document, DS 437, can be accessed via DfT who are co-ordinating the UK's response to this document. Further information and a comments form can be obtained from Danny Vince.

The closing date for return of member state comments is 16 November 2010. DfT will be holding a stakeholder engagement meeting in London on 21 October 2010 during which comments on the draft standard can be discussed. Further details on this meeting will be sent out at a later date.

Danny Vince

Dangerous Goods Division

0207 944 5794
www.dft.gov.uk/pgr/freight/dgt1/

NEWS FROM HPA- Radiation Protection Division

HPA-CRCE-001 - Conditional Exemption Limits for NORM Wastes

As part of the UK Government's better regulation agenda, the Department of Energy and Climate Change (DECC), in conjunction with the Devolved Administrations, is reviewing the Radioactive Substances Act 1993 (RSA93) Exemption Order regime and proposes to replace all the existing exemption orders with a single, conditional exemption order. Under the present regime, disposal of some naturally occurring radioactive waste (NORM) is exempt from the RSA93 registration and authorisation requirements. DECC has asked HPA to investigate the amount of NORM waste, with a head of chain activity concentration of up to 5 Bq g^{-1}, that can be disposed of to landfill without exceeding specified dose criteria. (A head of chain activity of up to 5 Bq g^{-1} implies that each member of the chain has a maximum activity concentration of 5 Bq g^{-1}). Using the methodology previously developed to assess the radiological impact of disposal of high volume, very low level waste (HV-VLLW) to landfill, maximum activity capacities for a landfill site were calculated for each chain segment in the naturally occurring decay chains (^{232}Th, ^{238}U and ^{235}U) and for the entire chains. The capacity ranged from 3 10^{12} Bq for the entire ^{232}Th chain to 2 10^{15} Bq for ^{210}Po. From these landfill capacity values, annual consignor activity limits were derived, and these are presented as annual mass limits at several activity concentration levels.

HPA recommends that it would be appropriate to specify a generic upper limit on the annual mass of NORM waste (containing radionuclide activity concentrations that are all below 5 Bq g^{-1}) that can be disposed of to a landfill site, per consignor, of 10^4 t. This generic upper limit could be used in a UK exemption order for NORM wastes and would ensure that the specified dose criteria were not exceeded, as long as the annual mass capacity of the landfill site was 5 10^4 t or greater. If the waste contains radionuclides from more than one natural decay chain then the summation rule (sum of fractions of the radionuclide capacity for each radionuclide present) would be used to determine the quantity of that waste that can be disposed of, per consignor, per year.

The report also discusses other disposal options for this NORM waste, for example reuse as hardcore for a road or car park, and gives recommendations for the appropriate thickness of the covering layer.

HPA-CRCE-002 - Patient Safety in Radiotherapy Steering Group Activity (November 2007 - March 2010)

This report provides a summary of both the collaborative project by the Patient Safety in Radiotherapy Steering Group with the radiotherapy community to improve patient safety in RT and an analysis of patient safety incident reports from August 2007 to November 2009 completed by the Health Protection Agency (HPA).

Since the publication of *Towards Safer Radiotherapy* [1] (TSRT) the HPA, in conjunction with the National Patient Safety Agency (NPSA), has continued to work closely with partner organisations to develop a new voluntary reporting system which can be used to analyse patient safety incidents in relation to radiotherapy errors.

This system makes use of the National Reporting and Learning System (NRLS) at the NPSA, allowing radiotherapy error reports to be completed using the same process as other patient safety incident reports but employing a trigger code TSRT9 and a dedicated coding system, which describes where in the radiotherapy pathway the error occurred and for the classification, which defines the severity of the error of RTEs as described in *TSRT*[1]. This enables the radiotherapy specific data, to be easily extracted from the NRLS. The Patient Safety in Radiotherapy Steering Group was set up to monitor the implementation of the recommendations from *TSRT*[1], in the first two years since publication. The Steering Group was chaired by the NPSA until 31st March 2010, with the HPA, taking over this function as of the 1st April 2010.

1. Towards safer radiotherapy. 2008. Royal College of Radiologists, Society and College of Radiographers, Institute of Physics and Engineering in Medicine, National Patient Safety Agency, British Institute of Radiology. Royal College of Radiologists, London.

HPA issues new advice on radon, 8 July 2010

A new initiative to reduce concentrations of radon in UK homes has been launched by the Health Protection Agency.

Radon, a naturally occurring radioactive gas, is the biggest source of human exposure to ionising radiation in the UK and is responsible for an estimated 1,100 lung cancer deaths a year. After reviewing the latest scientific evidence, as well as the costs and benefits of radon reduction measures, the HPA is retaining its Action Level of 200 becquerels per cubic metre (Bq m^{-3}) – but introducing a new Target Level of 100 Bq m^{-3}.

The Target Level has been introduced because research published since 1990 has given scientists a greater understanding of the risks to health of exposure to radon below 200 Bq m^{-3} and because HPA now has considerably more experience of the effectiveness of remediation measures. Although low level exposures can still lead to lung cancer, the risks at these levels are low and can be reduced further by simple mitigation measures designed to increase underfloor ventilation.

Dr John Cooper, director of the HPA's Centre for Radiation, Chemicals and Environmental Hazards, said: "We are retaining the Action Level of 200 Bq m^{-3} so that our efforts can be firmly focussed on those at greatest risk. However the new Target Level of 100 Bq m^{-3} will enable us to ensure people are aware that even below 200 Bq m^{-3} there are still risks to health and simple remediation measures can be taken to reduce these.

"The HPA recommends that people in homes where radon levels have been recorded between the two figures should think carefully about preventative action to protect their health. Together with our previous recommendations to Government on the inclusion of basic radon protective measures in all new buildings, the new advice is an appropriate practical response based on good scientific evidence of the risks of lung cancer from radon exposure."

The HPA recommends that Target and Action Levels should be applied to other premises where occupancy by members of the public exceeds 2,000 hours per year and to all schools.

Radon measurement programmes are organised on the basis of predictions of the probability that homes and other buildings in different parts of the country will have radon concentrations exceeding the Action Level.

Householders can find out the likelihood that their home is above the Action Level at www.ukradon.org. The HPA report: HPA Advice on the Limitation of Human Exposure to Radon, can be viewed here www.hpa.org.uk/Publications/Radiation/DocumentsOfTheHPA/.

To view indicative radon maps for England, Wales, Scotland and Northern Ireland, go to www.ukradon.org/article.php?key=indicativemap.

For further information please contact the CRCE Press Office on 01235 822737/876/745.

EAN and OTHEA

The European ALARA Network was established in 1996 with support from the European Commission, and 2010 marks the 5th anniversary of it becoming a self-sustaining network. EAN provides a forum for exchanging radiation protection information between European countries, with particular emphasis on applying the optimisation principle in practice. Specific activities include the organising of topical workshops (every 18 months) and a six-monthly Newsletter. More details of the network, including contact points, details of the workshops, newsletters and other network activities, can be found at www.eu-alara.net

On a different matter – do you remember IRID? It was started by NRPB, plus EA and HSE, but died a slow death. HPA are actively reviving the concept of a radiation accident "library". In fact, the intention is for a joint UK-French website (bilingual) containing reports from both countries. Like IRID, it is intended as collection of (totally anonymous) short accident descriptions – with the focus being on the lessons we can learn. Thus it's intended as a (free) training resource. Of course AURPO members will be welcome to use the website and it is hoped a supplier of reports?
This new network is called OTHEA and the website will be officially launched shortly. For a preview see - http://relir.cepn.asso.fr/index.php?lang=en

Dr Peter Shaw HPA, Leeds
(NB Peter will be giving us a presentation on these items at Cambridge)

NEWS from AFFILIATES

NEWS From BIC

BIC Technology have recently made a breakthrough on a low energy X-ray & Beta probe, which can comfortably measure Ni-63 contamination.
As part of the development a Mini-MCA has been put together, which allows spectral integration of scint probes using FitzPeaks software.
The Isotope Inventory Software for auditing & reporting closed & open sources on-site has been growing slowly with a strong base within the university sector in the UK.
For further information please contact Mike Scott on the Southern Scientific stand at the AURPO Cambridge meeting.

NEWS FROM LabLogic

If you use our Beta-RAM radio-HPLC flow-through detector in your work, you'll probably understand why it's the one that most life scientists choose. And even if you have no experience of it, you may well know that it's been the market-leader for more than 20 years.

But at LabLogic we know we can't afford to stop there. That's why we're collaborating with the University of Sheffield with a view to developing the version of the detector that will follow the current Beta-RAM Model 5 (although not for some time yet, we hasten to add).

For the next two years we're focusing on the photo-multiplier tube (PMT) technology at the heart of the detection system and working with the University's Physics and Astronomy Department, which has considerable experience of using the latest PMT techniques in areas such as particle physics.

We're hoping to find ways in which their expertise can be applied to make the next-generation Beta-RAM even more sensitive and efficient.

Working with us on the Beta-RAM project is Dr Tom Deakin, a post-doctoral research assistant at the University. In line with our long-established policy of listening to our customers, Tom is shadowing our support staff on visits to Beta-RAM users in order to find out how they think their expectations of the instrument might change in the foreseeable future.

Please contact solutions@lablogic.com for further details or to arrange a demonstration of the current Model 5.

Photograph shows Dr. Lee Thompson, Dr. Tom Deakin and Andrew Williams (LabLogic Product Specialist)

Lasermet LS-20 High Integrity Laser Beam Shutter

The Lasermet LS-20 Safety Shutter is intended to provide a means of preventing accidental exposure to a potentially harmful laser beams. It has been designed to form part of a high-integrity safety system and features a gravity-close blade and force-disconnect proving contacts. A 'SIL3' version is available which, when correctly wired to a Lasermet Interlock Control System can provide a safety interlock which meets Safety Integrity Level 3 to EN 61508. As standard the LS-20 uses an internal beam dump for lasers up to 20W. However, the shutter blade can be fitted with a dielectric mirror and used with an external beam dump allowing it to be used with multi-kilowatt lasers. Threaded input and output apertures allow beam tubes to be fitted. An anti-rotation slot is included. Fixings allow use with metric or imperial optical breadboards.

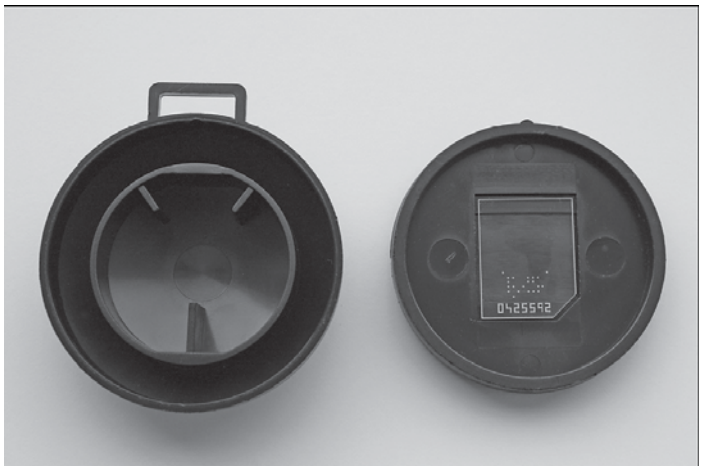
For pictures and further information please visit this page of our website:

http://www.lasermet.com/high-integrity-safety-shutter.php

I hope this is of interest to you. If you have any questions please call us on 01202 770740, or email us via the website address above.

NEWS from Landauer

Watch out for the Luxel+ on the Landauer stand at Cambridge this September. The Luxel+ dosemeter includes an additional filter which provides better differentiation between beta radiation and low energy photons. This new feature will improve the accuracy and precision in exposure determination.



Landauer now own Gammadata Mätteknik of Sweden who produce CR39 based radon detectors. Landauer Europe will be moving over to these detectors from the Glendale RadTrak in the near future.

BOOKS AND PUBLICATIONS

Radioactive Substances Regulation – Environmental Principles
http://publications.environment-agency.gov.uk/pdf/GEHO0709BQSB-e-e.pdf

Short term releases to rivers - National Dose Assessment Working Group
http://ndawg.org/documents/NDAWG-1-2009.pdf

Regulation and Risk of Radiation Exposure from Discharges
National Dose Assessment Working Group
http://ndawg.org/documents/NDAWGbooklet.pdf

HPA-CRCE-001 - Conditional Exemption Limits for NORM Wastes
http://www.hpa.org.uk/web/HPAwebFile/HPAweb_C/1274091894456

HPA-RPD-066 - Risks from Ionising Radiation
http://www.hpa.org.uk/web/HPAwebFile/HPAweb_C/1274090258191

HPA-RPD-067 - Individual Monitoring Conducted by the Health Protection Agency in the London Polonium-210 Incident
http://www.hpa.org.uk/web/HPAwebFile/HPAweb_C/1274089667322

HSE - Radiation Protection news - 28 June, 2010
http://www.hse.gov.uk/radiation/rpnews/rpnews280610.htm

IAEA new Publications

Planning a Clinical PET Centre

IAEA Human Health Series No. 11

The establishment of a PET (positron emission tomography) facility constitutes a large commitment in terms of initial capital and infrastructure development and support, especially in developing countries, where PET and CT (computed tomography) are in limited use or absent. The emergence of a hybrid system, such as PET/CT has stimulated much interest among clinicians as it provides additional information which is essential for the management of many cancers. This publication is intended to assist health care administrators and clinicians in their efforts to plan and establish a new clinical PET facility. It covers the role of PET and the emerging hybrid technology PET/CT which provides additional information for successful cancer management as well as local high priority health issues. It also provides comprehensive information for the establishment of medically oriented cyclotron facilities for the production of PET tracers and of radiopharmacies, all central to the delivery of PET services. Cost-effectiveness of PET and strategies for useful decision-making with regard to implementation of PET procedures in clinical practice are also covered.
STI/PUB/1457, 146 pp.; 9 figures; 2010, ISBN 978-92-0-104610-9, English. 42.00 Euro

http://www-pub.iaea.org/mtcd/publications/PubDetails.asp?pubId=8368

Appropriate Use of FDG-PET for the Management of Cancer Patients

IAEA Human Health Series No. 9

The use of PET (positron emission tomography) has become the standard quality of care for optimal management of patients with cancer. The availability of the hybrid PET/CT (positron emission tomography/computed tomography) scanner has further improved the utility of PET scanning and provides additional benefits to both patients and to the health system. This publication addresses the important issue of appropriateness of the application of PET/CT procedures in different clinical scenarios of many cancers. It is a useful resource for specialists in nuclear medicine and oncology, and aims to make reliable information widely available to those Member States where PET programmes are still in their planning phase or where the use of PET scanning is limited.

STI/PUB/1438, 2010, ISBN 978-92-0-101610-2, English. 39 Euro. Date of Issue: 3 June 2010.

http://www-pub.iaea.org/mtcd/publications/PubDetails.asp?pubId=8367

Best Practice in Environmental Management of Uranium Mining

IAEA Nuclear Energy Series No. NF-T-1.2

This publication has been written to assist Member States in the development of their uranium mineral resources. It sets out the basic tenets of best practice in terms of environmental management of uranium mining and processing operations from the viewpoint of both operators and regulators, and is accompanied by a collection of case studies from leading representatives in the global mining industry.
STI/PUB/1406, 34 pp.; 2 figures; 2010, ISBN 978-92-0-105909-3, English. 35.00 Euro

http://www-pub.iaea.org/mtcd/publications/ResultsPage.asp?=8122

Production of Long Lived Parent Radionuclides for Generators: 68Ge, 82Sr, 90Sr and 188W

IAEA Radioisotopes and Radiopharmaceuticals Series No. 2

This book provides information on the production and processing of four important long lived parent radionuclides, 68Ge, 82Sr, 90Sr and 188W, used for the preparation of generators for nuclear medicine applications such as positron emission tomography and therapy. It includes descriptions of the production routes for and process chemistry of the selected parent radionuclides, including relevant separation approaches. Information on use of the generator system and on physical and chemical characteristics is also provided.

STI/PUB/1436, 116 pp.; 31 figures; 2010, ISBN 978-92-0-101110-7, English. 50.00 Euro. Date of Issue: 24 June 2010.

http://www-pub.iaea.org/mtcd/publications/PubDetails.asp?pubId=8268

Schedules of Provisions of the IAEA Regulations for the Safe Transport of Radioactive Material 2005 Edition, Safety Guide

IAEA Safety Standards Series No. TS-G-1.6

Since 1961, IAEA Transport Regulations have been used worldwide by industry, competent authorities and international organizations. While the provisions of the Regulations are essentially clear and unambiguous, they are often also highly technical in nature and unavoidably complex. Therefore, there is a need for this publication that supplements the Regulations by providing specific information on individual consignments, to help users to identify the applicable requirements. It assists users in complying with the safety standards prescribed in the IAEA Transport Regulations.
Contents: 1. Introduction; 2. Definitions and classification; Schedules.
STI/PUB/1431, 283 pp.; 2010, ISBN 978-92-0-114809-4, English. 40.00 Euro. Date of Issue: 23 June 2010.

http://www-pub.iaea.org/mtcd/publications/PubDetails.asp?pubId=8232

Evaluated Nuclear Data for Nuclides within the Thorium-Uranium Fuel Cycle

The thorium based nuclear fuel cycle offers many advantages with respect to safety, reduced proliferation risk and waste management. However, the quality of nuclear data for the relevant materials is lower than for the comparable materials in uranium or mixed oxide (plutonium) fuel cycles. This publication presents the results of a coordinated research project aiming to improve the database of experimentally measured nuclear data of nuclides appearing in the thorium-uranium fuel cycle. It includes complex and comprehensive evaluated nuclear data files with a broad consensus on quality and validated performance based on benchmark test cases.

STI/PUB/1435, 57 pp.; 31 figures; 2010.ISBN 978-92-0-101010-0, English. 29.00 Euro

http://www-pub.iaea.org/mtcd/publications/PubDetails.asp?pubId=8216

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Association of UNIVERSITY RADIATION PROTECTION OFFICERS

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