

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

July 2009

AURPO NEWSLETTER

Editor T.J.Moseley

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EDITOR'S INTRODUCTION

Welcome to the summer edition of the newsletter. Thanks to all those who have helped me with contributions. Please remember to book for the Leicester Conference by 18th July. If you can't find your booking form I will be emailing them out again after I have got the newsletter out. An overview of what's in store is given on page 4. As usual you can expect a meeting packed with useful, practical information aimed at keeping the RPO up to date on all aspects of radiation protection.

There is a lot happening this summer with the EO review, EPP2, new Discharges Strategy, new CDG Regs, Development of new BSS etc and we hope to give you the latest information on new and forthcoming legislation at the Conference in September.

The AURPO Certificate (see below) continues to go well at Strathclyde. As a distance learning course it is ideally suited to new RPOs who need to broaden their knowledge base but can not afford to take long periods away from the workplace on training courses.

My thanks also go to affiliates for taking advantage of the 'Affiliates News' to inform members of their activities and new products.

Contributions for next issue by 20th November 2009 preferred format Word emailed to -

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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.

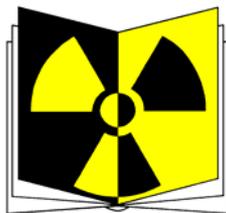
- 9 month programme commencing September 2009
- Study by distance learning with online tutor support
- Available to those with relevant qualifications and work experience currently working in radiation protection or related fields.

Deadline for 2009/2010 course is 31st August 2009.

For further information and an application form:

Tel 0141 548 4147 email: scosh@strath.ac.uk web: www.cll.strath.ac.uk

ANNOUNCEMENTS



48th 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:

**17.00 hrs on Wednesday 16th September 2009
at the University of Leicester.**

Any motions, duly proposed and seconded, must be received, by the Honorary Secretary, by 19th August 2009. All papers pertaining to the meeting will be available at the meeting.

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 19th August 2009.

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

**John Makepeace
Honorary Secretary AURPO
National Physical Laboratory
Hampton Road
Teddington
Middlesex
TW11 0LW
22 June 2009**

AURPO SCIENTIFIC MEETING LEICESTER 16th & 17th Sept 2009

Aspects of the Core of Knowledge –updating the RPO and RPA

Wednesday 16th Sept 2009 PM

CHAIR: Trevor Moseley

2pm – Opening by University of Leicester Registrar Mr David Hall

2.10 – 2.35 Repeatability and Light Effects in LiF:Mg,Cu,P TLD Cards – Richard Burkett, HPA

2.35 – 3.05 New BSS – ICRP103 implementation – Lindsey Cairns, HSE

3.05 – 3.35 EO Review – Steve Chandler, DECC

3.35 – 4.05 Break

4.05 – 4.35 EPP2 Implementation and Qualified Expert –Chris Englefield, EA

4.35 – 5.05 Transport Regulations & Practical Packaging – Trevor Moseley, Univ of Sheffield

5.15 – 6.00pm AGM

Thursday 17th September 2009

AM CHAIR and short Key Note presentation – Brian Heaton

09.00 – 09.20 The Core of Knowledge – Brian Heaton, ARPS

09.20 – 09.50 Risk Assessments & Radon Risk Assessments – David Orr, Sheffield HSE

09.50 – 10.20 Monitor calibration, testing and measuring uncertainties – Jan McClure, HPA

10.20 – 11.00 Break & Exhibition

11.00 – 11.30 Biological monitoring & internal dose assessments –Richard Bull, Nuvia

11.30 – 12.00 Laboratory Design – Derek Lowe, University of Sheffield

12.00 – 12.30 Classification of workers, review of worker doses and working overseas – Mike Sobanski, University of Cardiff

12.30 – 14.00 Lunch & Exhibition

PM CHAIR: Richard Harrison

14.00 – 14.30 Practices – PET – Simon Willis, Newcastle University

14.30 – 15.00 Practices – Veterinary use of Ionising radiations – Peter Cole, Liverpool University

15.00 – 15.30 Break & Exhibition

15.30 – 16.00 HPA's response to the polonium-210 incident in London 2006, Phil Tattersall, HPA

16.00 – 16.30 Arrangements for looking after sealed sources and age-related degradation – Ralph Whitcher, West Sussex County Council

18.30 Wine Reception – Wedgwood Room, Beaumont Hall

19.30 Conference Dinner – Beaumont Hall

PRESIDENT'S REPORT

We are very near to September again and the AGM and Annual Conference are soon to take place at University of Leicester. All of you should have received the invitation and Registration Form. John Scott would greatly appreciate it if you returned the registration form as soon as you have made your decision to attend. I am looking forward to seeing as many members as possible on September 16th – 17th.

Geoff Ward has had a very busy time at work and can not continue to effectively contribute to the AURPO committee work. With regret I have had to accept the resignation of Geoff Ward from the Executive. Also David Rickwood has retired and will shortly move to live in France. David has been looking after the Exhibition side of the Annual Conference and will be hard to replace. Therefore, we have 2 places on the Executive Committee to fill. Please do think of how you might be able to help in the running of the Association. In this edition there is call for nominations for two members of the Executive Committee. I would like to hear from you if you are interested in joining the Executive Committee or the Scientific and Technical Committee.

STC has finalised the Scientific Programme and once again promises some very interesting sessions with "Aspects of Core Knowledge" being the main theme this year. This may encourage newcomers into the radiation protection field. We will hear how the revision of Exemption Orders will impact on our operations and also the new BSS requirements etc.

We are looking for a venue and volunteer to host the 2012 Annual Conference. Please think if you have such a place to offer. Is it time to go back to Scotland again? We will go to Cambridge next year and will celebrate our 50th Anniversary at Newcastle. Our host organisers are busy sorting out the programmes.

I am sure you always find the newsletter is very useful and it is highly regarded by many outside AURPO. Please help the Editor of the Newsletter by regularly submitting items. It does need the input from you, the members. Please contact Trevor if you wish to help in any way.

See you in Leicester

Sonia Nuttall

22nd June 2009

Farm Restrictions 23 years after Chernobyl

Nearly 370 farms in Britain are still restricted in the way they use land and rear sheep because of radioactive fallout from the Chernobyl nuclear power station accident 23 years ago, the government has admitted.

Environmentalists have seized on the figures as proof of the enormous dangers posed by nuclear power as the UK moves towards building a new generation of plants around the country.

Dawn Primarolo, Minister for Health, revealed 369 farms and 190,000 sheep were affected, but pointed out this was a tiny number compared with the immediate impact of radioactive fallout from Ukraine.

"This represents a reduction of over 95% since 1986, when approximately 9,700 farms and 4,225,000 sheep were under restriction across the United Kingdom. All restrictions in Northern Ireland were lifted in 2000," she added.

NEWS from HSE

HSE intends to 'be part of the solution' and hopes others will join with it in adopting a commonsense approach to Health and Safety in its new strategy for improving H&S in the UK. In future HSE will be there to guide you and not condemn you (*perhaps some inspectors may need retraining!*). From September 2009 all H&S guidance documents and ACOPs should be made freely available in pdf form on their website and the website itself is going to be revamped to make it more user friendly. Of course lots of useful information is already made available on the website and the following are extracts from the latest HSE News which can be found in full at -

<http://www.hse.gov.uk/radiation/rpnews/rpnews300309.htm>

Complacency leads to accidents: MONITOR

HSE has recently completed an investigation into the loss of control of a high activity caesium-137 source, which was dropped during transfer from a transport container into a tool. The failed transfer went unnoticed for several hours because key workers did not carry out source location confirmation checks with a radiation monitor immediately after transfer. They therefore had no way of knowing that the radioactive source had been safely transferred.

It was fortunate for the Company and employees who might otherwise have been grievously exposed to radiation, that the source was found and recovered in a relatively short period of time. Radiation fields around the source posed a risk of deterministic injuries being sustained by workers in the vicinity if it had not been identified and recovered very quickly.

Source location confirmatory monitoring during source movements and relocation are fundamentally important elements of any safe system-of-work for these tasks and must always be carried out at key stages during their completion: high-activity source location should never be assumed but rather confirmed, where practicable, by radiological measurement.

HSE would like to remind all users who work with mobile radioactive sources that they should not become complacent when carrying out routine operations and, in particular, carrying out confirmation checks and surveys with radiation monitoring instruments.

Nuclear Safeguards Reporting for UK 'Small Users'

The aim of international safeguards in the UK is to ensure that civil nuclear materials (uranium in all its forms, plutonium and thorium) are not diverted from their declared peaceful uses. The basic components of the safeguards regime are the provision of information to the safeguards inspectorates of the European Commission and/or the International Atomic Energy Agency (IAEA), and inspections by those bodies to verify the completeness and correctness of the information reported to them.

Safeguards requirements for small users of nuclear material in the UK (i.e. outside the major nuclear facilities) are set out in the Treaty Establishing the European Atomic Energy

community (the Euratom Treaty) 1957, with the reporting requirements amplified in http://eur-lex.europa.eu/LexUriServ/site/en/oj/2005/l_054/l_05420050228en00010070.pdf

Article 19 of the latter provides for reduced ('derogated') reporting, in a simplified format and at reduced frequency compared with the full requirements of the regulation, by certain small users. This means, in essence, that once the European Commission has granted a derogation, a straightforward annual report (according to the format of Annex X to Regulation 302/2005) should be all that is required unless material is transferred into or out of the European Union.

Nuclear materials accounts that show how much nuclear material is where, are fundamental to safeguards reporting, and such reporting should be a relatively straightforward product of the nuclear materials accountancy arrangements which should already be in place to meet UK domestic requirements (e.g. as set-out in respect of the Ionising Radiation Regulations 1999 and the Radioactive Substances Act 1993). The European Commission has, moreover, developed the Euratom Nuclear Material Accountancy System (ENMAS) Light software application for 'Small Users' which can be used to create the reports required by Regulation 302/2005.

The European Commission safeguards inspectorate also has the power to perform on-site inspections to confirm ('verify') the information reported to it. Such inspections for small users in the UK are infrequent (e.g. a total of 6 in 2007) and will normally be accompanied by a representative from the HSE UK Safeguards Office (UKSO).

HSE(UKSO)'s role includes working with UK organisations subject to safeguards requirements and the international safeguards inspectorates of the European Commission (and the IAEA), so that safeguards obligations for the UK are met in a proportionate manner.

All reports and correspondence to the European Commission should be sent via the HSE (UKSO) at 7th Floor North Wing, Rose Court, 2 Southwark Bridge, London SE1 9HS. For further information contact: Minder.Louie@hse.gsi.gov.uk. Tel. no 0207 717 6817 or view the website - <http://www.hse.gov.uk/nuclear/safeguards/index.htm>

REPPIR - A Reminder

The Radiation (Emergency Preparedness and Public Information) Regulations 2001 (REPPIR) came into force on 20 September 2001 and was amended in 2007 removing transportation by rail from the requirements of the regulations.

REPPIR requires operators of premises where work with ionising radiation is carried out and those who transport radioactive sources through public places (other than by standard forms of transport) handling more than specified quantities of radioactive substances, to carry out a hazard identification and risk evaluation (HIRE). The purpose of this is to determine whether a 'radiation emergency' is reasonably foreseeable. A radiation emergency is a radiation accident in which a person, not present on the premises where the radiation emergency occurred and who is not involved in any intervention activity, could receive an effective dose of 5mSv within a year of the emergency. Where radiation emergencies are reasonably foreseeable there are requirements for the development of emergency plans (including off-site emergency plans prepared by local authorities), for review and testing of these plans, and for consultation.

So, to recap:

- REPPIR apply to all operators of premises and some transport operations with holdings of radioactive material greater than the relevant REPPIR Schedule values.
- All such dutyholders must carry out a Hazard Identification and Risk Evaluation (HIRE), unless they can demonstrate that the material is “non dispersible”. A report of the HIRE must then be sent to HSE.
- The HIRE must be reviewed every three years and, either a revised HIRE report, or a declaration that the original HIRE remains valid must be sent to HSE.
- All HIRE reports or declarations should be sent to The Health & Safety Executive, Phoenix House, 23-25 Cantelupe Road, East Grinstead, West Sussex RH19 3BE.

Further information can be obtained from HSE's 'A guide to the Radiation (Emergency Preparedness and Public Information) Regulations 2001' (L126).

EC proposal to Recast the Basic Safety Standards (and other Euratom) Directives

As described in the RP News article of 22 September 2008, the European Commission (EC) intends to bring forward a formal proposal for a new Euratom Basic Safety Standard Directive which will be based on a recast and consolidation of the following five existing Directives and one Recommendation:

- Basic Safety Standards, Directive 96/29/Euratom
- Medical Exposures, Directive 97/43/Euratom
- Outside Workers, Directive 90/641/Euratom
- Control of high activity sealed radioactive sources and orphan sources 2003/122/Euratom
- Public Information Directive 89/618/Euratom
- Radon, Commission Recommendation 90/143/Euratom

Account will also be taken of the International Atomic Energy Agency Basic Safety Standards (currently being revised) and the latest International Commission on Radiological Protection (ICRP) recommendations.

The EC Working Party (WP) of its Article 31 (A31) Group of Scientific Experts hopes to complete a new draft Directive by November 2009.

Since current Euratom Directives are implemented in the UK by a range of regulations enforced by HSE and other government departments, HSE has convened a cross-Government group to co-ordinate the UK Response. The HSE team will be working with this group and are keen to engage all UK stakeholders to ensure that a breadth of interested parties views inform the development of the UK influencing strategy and negotiating position. Interested parties should contact the HSE Policy team (see below) to register this interest.

Kate Haire (0151 951 3792) Kobina Lokko (0151 951 3116)
kate.haire@hse.gsi.gov.uk kobina.lokko@hse.gsi.gov.uk

Non-Nuclear Ionising Radiation, Specific Interventions, Policy Group,
HSE, Bootle,

Accessing information on international nuclear and radiological events and learning lessons

The Nuclear Events Web-based System (NEWS) is a joint project of the International Atomic Energy Agency (IAEA), the OECD/NEA (Nuclear Energy Agency within the Organisation for Economic Co-operation and Development) and WANO (World Association of Nuclear Operators) that provides fast, flexible and authoritative information on the occurrence of nuclear and radiological events (rated using the INES scale) that are of interest to the international community.

Reading the NEWS Event Detail by logging in as a guest user see - <http://www-news.iaea.org/news/topics/default.asp> is worthwhile for RPAs, training providers, dutyholders and radiation users and usually provides a stark reminder of what can and does go wrong when effective measures are not in place to manage radiation work. Recent non-nuclear events include a failure to monitor effectively during site radiography resulting in a dose of 110mSv to an individual, and in a separate event, a skin overexposure to a workers' hand of between 1.2 and 1.9 Sv during radiopharmaceutical preparation. The latter is understood to have occurred when 'the employee unknowingly came into contact with a contaminated item during his pre-production preparation.' The report comments that the wearing of gloves was not required for this task at the time.

NEWS from DEFRA, DECC and EA

SULG 32nd Meeting 6th June 2009, London

Minutes of SULG meetings, once approved, can be obtained from the Technical Secretary to SULG, Amber Bannon (amber.bannon@environment-agency.gov.uk). A brief review with some additional comments is given below by the Editor.

RSR Policy Update.

DECC launching consultation on new EO Regime on 12th June. This is a standard 3 months consultation but early responses would be appreciated. The new EO regime is scheduled to be included in the proposed Environmental Protection Regulations 2010 (due out April and known as EPP2). All existing 18 EOs will then be revoked. It is intended that EU clearance values will be used to exclude solid materials from RSA93 and drinking water standards are being used to exclude aqueous materials for the first time from RSA93. Excluded items will be deemed not to be radioactive under the Act. Exempted materials will be covered by Schedule 22 of EPP2 and will be conditionally exempt. Except for some NORM materials, where the new limits will be more restrictive, the new regime should be equivalent to the old exemption orders. Members are encouraged to consider the implications of the new regime for their current practices and inform DECC promptly if they think there are any problems with the new regime for their activities.

Consultation on EPP2 itself took place in the Spring and a stakeholder workshop was held at the end of March. The meeting was very positive and on the face of it the new regime should be more flexible: simpler arrangements for inter-site transfers; transfer of permits allowed; a multi-site facility could operate under a single permit and a site owner could assume responsibilities for others working on a site. The guidance on how EPP2 will be applied in

relation to radioactive substances users has still to be finalised and the detail here will need close examination.

Charging scheme for 2009/10 has been agreed and set at the lower baseline figure of 1.8% increase (2.8% had been proposed).

DECC working on a national strategy for non-nuclear LLW, looking to conserve or possibly expand disposal routes for the non-nuclear sector.

Expect the new Discharges Strategy (for OSPAR) to be published by DECC in July.

Now that the Surplus Source Disposal Programme has been completed we can expect future inspection emphasis on 'surplus sources' to ensure that people are not hoarding problems for the future. It was reported that small Ra-226 sources (a few MBq) can go to Drigg. There is continued shortage of Mo-99 due to manufacturers' shutdown of reactors – look up BNMS website for latest updates.

RSR Process Update

Work is progressing on EPP2 implementation and DEFRA are currently consulting on draft Environmental Permitting Guidance (aimed at the Regulator). Members are asked to look at this and have until 29th July to respond. Chris Englefield gave a presentation on where we were at currently with the regulations and guidance. Instead of Registrations and Authorisations we will have 'Permits'. Look out for 'Standard Rule Permits' – which will be similar to 'Fixed Condition Registrations' – we need to get as much of our work as possible into these. There will then be permits with 'security issues' i.e. for HASS and other sealed sources and permits without security issues for open source work and disposal and accumulation of wastes. Chris acknowledged that single permit for multi-site was possible but said this would have an impact on charging scheme (*and therefore blow a hole in their cost-benefit analysis!*). The charging scheme will be getting a complete overhaul after EPP2 is introduced.

Chris Englefield has been looking for more stakeholder involvement to help him progress the issue of Qualified Experts. He got a couple more volunteers to look at this topic over the summer so hopefully he will have something for us by September.

DfT Report

David Rowe reported on an increasing amount of contaminated imports of steel products (including consumer items) from India and China (Co-60 usual culprit). More detection systems are being installed to prevent these items getting to the public.

CDG 2009 should now be available on DfT website but what you really need to check is what ADR2009 requires us to do as new CDG Regs just implement the latest ADR – *editor will be doing a review this summer.*

Excepted packages and public transport – not permitted because of documentation requirements.

Questionnaire – DR apologised for the way the questionnaire was formulated and sent out but he still needs the information and would request people to get in touch with him to let him know the extent to which they or their contractors are involved in the transport of radioactive materials so that he can complete his own survey for the EU.

Transec (*Transport Security Team in DfT*) has been contracted to carry out audits on compliance with CDG/ADR and they will be increasing their activity in the next year, including more audits of small users. Recent audits have highlighted the following common

failings: poor consignment docs (or lack of them) with contents often listed in wrong order; lack of training and recorded training; incorrect marking and labelling; and lack of required equipment in vehicles.

Additional transport information added by editor -

- Technical Guide - European Package Design Safety Reports for the Transport of Radioactive Material (2.38 Mb) see- <http://www.dft.gov.uk/adobepdf/165226/460089/radioactivematerial.pdf>

Guidance to assist in meeting the package design requirements in compliance with the applicable dangerous goods regulations.
(**Published** May 2009)

DECC report on EO Review

The meeting was given the latest update by Fiona Shand with all the main details already mentioned in RSR Policy Update (above). There will be a workshop in Manchester on July 8th for the non-nuclear sector for the main stakeholders to give their initial feedback and help with guidance material. The official consultation runs to 4th September but if people identify issues that need addressing then the sooner these are reported the better. See DECC website for further information

HASS Financial Provisions

Your editor voiced his continuing concern that institutions in England seemed to be getting less favourable treatment than our cousins in Wales and Scotland and asked for a non-cost option for England! There must be some assurances we can make that will satisfy the EA/DEFRA requirements. Chris Englefield was sympathetic to our concerns, expressed the opinion that he thought that HEFCE would be a suitable guaranteeing body and put the ball back into my court to get an agreement letter from them.

AOB

Restructuring by DoH of NHS in Wales will require relicensing of NHS Trusts there.

Standardised Reporting has reared its head again but the only non-nuclear sites that will be involved are those that are deemed to be 'complex sites' and those that undertake monitoring of discharges. As 'complex sites' are not clearly defined and cyclotron production facilities monitor discharges there was some concern expressed that more people would be dragged into this than was necessary. If people had to report using this system, and did not measure discharges (or levels were undetectable), the formula for estimating discharges would greatly overestimate typical discharges for any small user with a high water consumption. *Ed to follow up.*

Finally Chris Englefield announced an anonymous survey of SULG members to be arranged with consultants to look at 'Inspection Efficiency'. Members were happy to oblige but asked for feedback as previous reviews had not been reported back on.

Next meeting of SULG will be on Nov18th.

OTHER EA MATTERS

Useful learning point from a University related incident;

Some chromium-51 intended for a northern university was reported missing as it had been mistakenly delivered to a local hospital. The Environment Agency North East team has been investigating the systems and procedures of the parties involved, including the transport company. *(I am reliably informed that the University was not such an innocent party as they decided to just reorder the source instead of taking appropriate actions.)*

Robust ordering and receipt of delivery procedures as part of the Radioactive Substances management system are required. Inspectors are encouraged to audit delivery procedures as part of compliance inspections. Useful guidance is available at the British Nuclear Medicine Society. *(need access rights)*

http://www.bnmsonline.co.uk/index.php?option=com_content&task=view&id=76&Itemid=15

or you can get it free from;

<http://journals.lww.com/nuclearmedicinecomm/pages/toc.aspx?year=2004&issue=12000>

Useful guidance for compliance of Band 4S Security Registrations, especially HASS Registrations and Authorisations;

Radiation Protection Officers/Supervisors should review their management systems to ensure they are robust and effective in achieving the objectives of permit conditions. Page 18 onwards of the below guidance describes the main conditions that are included in registrations/authorisations for HASS or sources of a similar level of potential hazard. It also gives guidance on what you need to do to comply with them. It follows the structure of the Environment Agency template registration for keeping and using HASS, or sources of a similar level of potential hazard, on a single premises (that is, registration under section 7 of RSA93). However, the conditions and guidance are, on the whole, equally applicable to:

- registrations for mobile HASS or sources of a similar level of potential hazard (section 10 of RSA93);
- authorisations to accumulate waste HASS or sources of a similar level of potential hazard (sections 13 and 14 of RSA93).

Radioactive Substances Regulation permitting: high activity sealed radioactive sources and orphan sources regulations 2005 guidance version 5 is on the Environment Agency site;

<http://www.environment-agency.gov.uk/business/sectors/39773.aspx>

Other useful changes to RA Guidance;

- There are new sections in RASAG Chapter 1 on Storage in Transit registrations, Radium dials in museums, and regulation of Cyclotron facilities.
- The section on VLLW in RASAG Chapter 2 has been rewritten to reflect the White Paper on LLW management and the new authorisation conditions (see above).
- A number of changes have been made to RASAG Chapter 3 guidance on Exemption Orders.
- There is a new section in RASAG Chapter 4 on Management System conditions.

NEWS FROM HPA- Radiation Protection Division

COMARE 13th Report: The health effects and risks arising from the exposure to UV radiation from artificial tanning devices.

Skin cancer is now the most common form of cancer in the UK, with over 10,400 malignant melanoma cases and at least 81,500 non-melanoma skin cancers recorded in 2006. Intermittent high dose rate UV radiation exposure is associated with increased risk of melanoma at all ages of life.

The association of skin cancer with exposure to the sun has been the subject of a number of campaigns but only recently has similar attention been given to sunbed use. The number of commercial sunbed outlets in the UK is growing. There is evidence of increasing sunbed use by children and young adults in the UK in both supervised and unstaffed (coin operated) commercial outlets.

COMARE has reviewed evidence from a wide range of sources on the health effects and the risks associated with exposure to UV radiation from artificial tanning devices, such as sunbeds. Exposure to UV radiation, whatever the source, is capable of inducing all types of skin cancer, photoageing and other types of medical conditions, such as cataracts. It can also produce severe burns. Current sunbed technology can result in exposure to UV radiation doses greater than that from the midday Mediterranean sun. The health risks associated with sunbed use far outweigh the perceived benefits, the majority of which are psychological and cosmetic. The use of sunbeds is not associated with added protection from sun exposure and the practice of using sunbeds to synthesise vitamin D is not recommended due to the cancer risk and high frequency of side effects.

COMARE recommends that regulation is required on the commercial use of sunbeds. This would include the prohibition of the use of commercial sunbeds by the under 18s and the prohibition on the sale or hire of sunbeds to the under 18s. We also recommend the prohibition of unsupervised use and/or self-determined operation of sunbeds in commercial outlets. All commercial outlets should be licensed and registered, with equipment that adheres to the British Standard and be staffed at all times with trained, competent personnel. We recommend that local authorities should be required to inspect commercial outlets and be provided with sanctioning powers if licensing is introduced. Salons would be required to provide clients with detailed written information on the health risks associated with the use of sunbeds and staff must ensure that adequate protective eyewear is provided for client use. We recommend that commercial outlets and sunbed retailers should be prohibited from promoting unproven or net health benefits of sunbed use.

COMARE recommends that funding for campaigns raising the awareness of risk factors for skin cancer is reviewed in line with other national health campaigns. We recommend that stronger publicity campaigns on the risks from UV exposure should be particularly targeted towards children.

Further research is required into the associated risks of melanomas and non-melanoma skin cancers arising from sunbed use. We also recommend additional research into potential eye damage resulting from the use of sunbeds without adequate eye protection. There is a need to establish background knowledge of the psychology for tanning and how behaviour may be changed.

Downloads of the report are available from www.comare.org.uk and hard copies from the Information Office.

HPA-RPD-055 - An Introduction to the Estimation of Risks Arising from Exposure to Low Doses of Ionising Radiation

Authors: S Mobbs, S Watson, J Harrison, C Muirhead and S Bouffler

Exposure to ionising radiation leads to a radiation dose. The main health effect of low levels of radiation dose is an increase in the chance of developing cancer. The radiation risk factor quantifies the level of risk caused by a given amount of radiation dose, i.e. there will be an X% risk of getting cancer per unit of dose received. This document provides an introduction to the risks from exposure to low doses of radiation and explains the derivation of the radiation risk factors used in radiation protection. The examples are focused on radioactive waste management situations but the concepts can be applied to other situations.

The estimated values of risk factors are largely based on epidemiological studies of the Japanese atomic-bomb survivors, many of whom received medium to high doses of ionising radiation, and are supported by studies of other populations such as patients given medical exposures and workers receiving exposures at work. The International Commission on Radiation Protection (ICRP) used these estimates of radiation risk as the basis for their radiation protection system and made adjustments to allow for lower doses and lower dose rates, in order to estimate the risks of developing various cancers following exposure to ionising radiation from typical situations (e.g. medical, occupational or environmental exposures). Current ICRP recommendations (ICRP, 2007) for radiation protection assume an overall fatal cancer risk from low dose ionising radiation of about 5% per Sv.

The studies of the Japanese atomic-bomb survivors include many features of good epidemiological studies and the findings from studies of other populations are in reasonable agreement with them. Therefore HPA has confidence in the risk factors used by ICRP. Additionally, as a measure of their acceptance, the ICRP system of radiation protection and standards is applied internationally as well as in the UK. It is possible to estimate the accuracy of radiation risk models from the evidence provided by the epidemiology studies. HPA's view is that, when considering the risk of all cancers in a population of all ages exposed to radiation at background dose levels and above, it is reasonable to assume that the estimates of risk used for protection purposes are accurate to within a factor of 3 either way for some radionuclides and for external exposure. For certain radionuclides the evidence suggests that the accuracy of risk estimates is likely to be around a factor of 10 either way.

Download full report from

http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1245052106693

Health effects of radon exposure

An expert advisory group of the Health Protection Agency has today (2nd June 2009) recommended that the Agency should consider tightening its recommended safety levels for radon gas in homes and workplaces.

Radon - a naturally occurring gas - is the major source of human exposure to ionising radiation in the United Kingdom and is responsible for an estimated 1,100 lung cancer deaths a year; most of which occur in current or ex-smokers¹.

Following an in-depth review of the latest scientific evidence, the HPA's independent expert Advisory Group on Ionising Radiation has recommended that the Agency should place greater emphasis on reducing the UK average indoor radon concentration. The Advisory Group recommends a lowering of the radon Action Level – the point at which the Agency

advises homeowners take steps to reduce indoor concentrations of radon - from 200 Bq m⁻³ to 100 Bq m⁻³ in areas known to have high concentrations of radon.

In addition, the Advisory Group also recommends that radon control measures in new buildings, currently required only in high radon areas, should be considered for most of the UK.

Advisory Group chairman, Professor Bryn Bridges, OBE, said: “We have reviewed the risk of lung cancer from exposure to radon gas in the home using all sources of information. It now seems appropriate to move towards an approach that reduces the average exposure across the whole country.

“A health economics analysis shows that several options could be cost effective. For example, cost benefit analysis shows that preventative measures such as a membrane under the floor in new homes would be justified throughout the entire country rather than just in specific areas as at present.”

The Advisory Group indicates that the benefits of taking remedial action in existing homes are sensitive to a number of factors including the cost of identifying homes with relatively high radon concentrations.

In 2008, the Agency recommended that basic radon protective measures be installed in all new UK dwellings².

The Health Protection Agency’s Chief Executive, Justin McCracken, said: “Our Advisory Group’s report is a valuable contribution to the growing scientific understanding of the health risks from radon in the home and as a result of the points they have raised we have today published a consultation document which considers all their recommendations. Once the consultation is completed, the Agency will present its recommendations to Government.”

AGIR Report: Radon and Public Health. Report of the Independent Advisory Group on Ionising Radiation. Docs HPA 2009

<http://www.hpa.org.uk/webw/HPAweb&Page&HPAwebAutoListNameDesc/Page/1199451989432?p=1199451989432>

Health Protection Agency CD: HPA Advice to the Limitation of Human Exposure to Radon

<http://www.hpa.org.uk/webw/HPAweb&Page&HPAwebAutoListNameDesc/Page/1204542909765?p=1204542909765>



HPA-RPD-051 - Radon in Dwellings in Scotland: 2008 Review and Atlas

Authors: B M R Green, J C H Miles and D M Rees

This report details a project, funded by the Scottish Government, to map radon levels in homes throughout Scotland and brings together all the data held in the UK national radon database on radon levels in Scottish dwellings. It updates previous reports and presents the first complete radon probability map for the whole of Scotland including the inhabited off-shore islands.

Data from radon measurements in over 19,000 Scottish dwellings are presented in tabular format by local authority and by various divisions of the postcode system. The radon probability maps are based on the national grid system and show some geographical detail, such as council boundaries, settlements and major roads.

A number of radon Affected Areas are identified on the maps. These are areas where there is a 1% or greater probability of the radon level in a dwelling exceeding the Action Level. It is recommended that a phased programme should be undertaken in the higher probability areas with the twin objectives of identifying homes with high radon levels and encouraging owners and landlords to reduce such levels.

Download full report from -

http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1240386976363

Other new HPA Reports that are now available include the following:-

HPA-RPD-054 - Uncertainty Analysis of the Absorbed Dose to Regions of the Lung per Unit Exposure to Radon Progeny in a Mine

http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb_C/1242717252396?p=1197637096018 - Added/updated: 19 May 2009

HPA-RPD-053 - Results of the 2006 Health Protection Agency Intercomparison of Passive Radon Detectors -

http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb_C/1241048738947?p=1197637096018 - Added/updated: 30 April 2009

HPA-RPD-052 - Response to Comments Received during the Consultation on Proposed HPA Advice on Radiological Protection Objectives for the Landbased based Disposal of Solid Radioactive Waste -

http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb_C/1239868000545?p=1197637096018 - Added/updated: 16 April 2009

HPA-RPD-050 - A Survey into the Radiological Impact of the Normal Transport of Radioactive Material by Sea -

http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb_C/1234254457134?p=1197637096018 - Added/updated: 10 February 2009

The latest edition of the Environmental Radon Newsletter can be found at –

http://www.hpa.org.uk/web/HPAwebFile/HPAweb_C/1242285221269

The latest edition of **Health Protection Matters** can be found at –

http://www.hpa.org.uk/web/HPAwebFile/HPAweb_C/1238230843040

NEWS from AFFILIATES



NEWS FROM LabLogic

Limited time special offer

Until the end of July, anyone buying a Chameleon V microplate reader from LabLogic Systems will receive a free temperature control unit worth £690.

The offer makes the Chameleon an even more attractive purchase. It is already the most versatile plate reader available, capable of detecting both radiometric and non-radiometric labels and encompassing up to six different technologies in a compact, space saving design.

Purchasers choose the combination of methods best suited to their individual needs: Luminescence, Fluorescence, Time-Resolved Fluorescence (TRF), Fluorescence Polarization, Absorbance and Liquid Scintillation Counting.

The Chameleon's unique optical design achieves the highest sensitivity in all detection modes - TRF sensitivity down to 5 amol Eu/well and LSC efficiency above 50% for 3H.

In addition, serial dilution experiments have shown that the Chameleon's dual PMT design and ultra high sensitivity luminescence mode make it the most sensitive luminometer available, with a detection limit less than 1 amol ATP/well.

The Chameleon has many other 'additional' features as standard, such as a shaking facility, >100 scanning points per well, variable measurement/count times and multiplexing (for multiple measurements of samples using different technologies and wavelength settings). All of these features are made manageable by MikroWin 2000 Lite software, which is included with the reader.

To complete the package, LabLogic can provide an extensive range of customising accessories, such as up to two built in injectors, temperature control with a range of ambient + 2°C - 42°C and robot / stacker compatibility.

Please contact solutions@lablogic.com to get more information.

SUFFOLK RADIATION TECHNICAL SERVICES (SRTS) Ltd

SRTS Ltd will soon be celebrating its 10th birthday. As approved trainer for the pharmaceutical industry, PIRSDG, for their RPS courses, we are pleased to be running PIRSDG courses at Bristol, Leicester and Southampton universities this autumn. There are often a few spare places on these courses for a small number of delegates from other universities so the offer is made to universities with smaller numbers of researchers handling unsealed radioisotopes to send their delegates to these courses.

In addition, our work with industrial users of sealed sources grows. We are pleased to announce that the UK's largest paper factory at Kings Lynn will open this year on time and budget. See: <http://www.controlengurope.com/article.aspx?ArticleID=21970>

Further details can be found on the SRTS website: www.suffolkradiation.co.uk

The University of Glasgow is hosting the next X-ray Users RPS course in the autumn. Enquiries should be made to:

Louise Sullivan on srtsltd@aol.com or Tel: 01473 623527

We wish all our readers a swine-flu free summer and a successful 2009 conference!

R Monty Guest

RPS Training with RADMAN

Through 2009 Radman Associates are pleased to continue their popular RPS training courses.

These courses are attended by both new and refresher RPSs and allow university staff to mix with the private sector and exchange views on respective safety culture. Our next 2-day residential course (September 23rd/24th) concerning laboratory radiochemicals features:

- An overview of current legislative controls and enforcement actions by the regulators.
- RSA93 Management Systems.
- An easy method for conducting experimental risk assessments.
- Practical requirements for source/waste accounting and monitoring.
- The importance of record keeping.
- External exposure risk from hard beta emitters.
- ALARP in the lab.

Evening syndicate work provides real, laboratory scale incidents for delegates to consider and report on the following day. Above all, past attendees have reported a refreshing mix of good delegate interaction with practical course information.

For further booking information and a downloadable programme see:-

<http://www.radman.co.uk/training/radiation-protection-courses-LRC2.aspx>

Robert Collins
Radman Associates
Harvey House
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Macclesfield SK10 5JR
Tel: (01625) 576000
Fax: (01625) 576001
Website: www.radman.co.uk

LASER SAFETY NEWS

LaserBee - Laser Safety Software

News Update - LaserBee Version 5 released

LaserBee Version 5 has been completely rewritten in Java so that it can now be run on any platform supporting the Java runtime environment - Windows, Mac, Linux etc.

It represents a significant advance in capabilities whilst still retaining ease of use. It incorporates all the latest developments of IEC/BS EN 60825-1.

See -

<http://www.lucidtraining.co.uk/lasersafety/requestlaserbee.htm> to request a demonstration copy of LaserBee.



Please let us know if you have access to the now obsolete Microsoft Java Virtual Machine (MSJVM). We have not been able to test LaserBee with this and would appreciate the opportunity.

Main Enhancements of LaserBee 5

- The new graphical interface keeps your laser parameters clearly in view while you navigate between your different tasks using the intuitive tabbed-pane interface.
- On-line help is now incorporated at three different levels:
 - the familiar 'honeycomb' from the previous versions gives the background information required for a good understanding of laser safety issues;
 - the main laser safety tabs have a task-specific help panel explaining how to perform the task in hand; and
 - input boxes, radio buttons etc. have 'tool tips' giving specific help for that component.
- A one-click report generator produces on-screen printable reports which can be saved and loaded into a word processing program if required.
- An easy-to-use laser database facility replaces the 'active record' concept from earlier version of LaserBee. This uses a comma separated values format (.csv) file which is compatible with most database programs such as Access or Excel etc..
- Access to calculation parameters has been improved by adding 'explanation' panels which give specific details of calculations with parameters such as CF5, T1 etc. clearly listed for comparison with the standard documentation.
- A required optical density calculation is now included in the eyewear routines.
- The type of divergence calculation (linear or Gaussian Beam) can now be selected by the user.
- More tools have been included including Gaussian Beam calculations, mW to dBm interconversions etc.
- User preferences allow the user to select the default angular units, default divergence calculation type, etc.

VIDEO and New LED Warning Sign from Lasermet

For a video demonstration of Lasermet's new ICS-5 laser interlock system with LED warning sign please go to -

<http://www.lasermet.com/interlock-systems.htm>

NB. The video has an audio commentary, so speakers are required - otherwise it might not make too much sense.

I hope this is of interest to you. For further information call us on 01202 770740, or email us via the website address above.

Decommissioning in the Sixties

Memories of dismantling a 156 inch synchrocyclotron

Richard Beckley, Radiation Protection Office, University of Liverpool

When I started at the University of Liverpool in 1966 Mr Ivan Birchall was the University Radiation Protection Officer for the University, and he introduced me to the 156 inch synchrocyclotron which was then still running a physics programme.

The machine basically was a steel square of outer side approximately 30 ft with a 16 ft hollow in the centre into which the pole pieces and dee were fitted. The steel yoke, weighed about 7000 tons. The top and bottom spans consisted of a sandwich of steel plates approximately 12" thick and 30ft long. The total width of each sandwich was approximately 6ft. The two spans were separated by two slabs (one on each side) of similar construction so that the central core was about 16ft square. The pole pieces were affixed to the top and bottom spans. Each of the two pole pieces consisted of 9 circular (156" diameter) iron discs; 8 of them were 6" thick and 1 was 9" thick. The pole pieces had coil windings of 1½" square aluminium bar through which a ¾" diameter was bored for water cooling. The magnetic field was induced by electricity at 1400 amps and 550 volts.

Being approximately 40 ft high the base of the machine was set in the basement whilst the plane of the dee was approximately 4 ft above ground level. The access around the machine was on steel 'ship's plating' of expanded mesh.

The Synchrocyclotron only had a single dee on the southern side of the machine. This was constructed of copper plate attached to aluminium framework. The outer end of the dee extended to a 'stub tank' on which was suspended the rotating condenser. This reversed the polarity of the dee in synchronisation with the charged particle circulating in the magnetic field of the pole pieces.

After it was shut down in 1968, it was left untouched for about a year, and then stripped down.

Measurements of the residual activity in various parts of the building were made by taking drill and core samples in the walls to a depth of approximately 15cm (6") and counting the activity at specific depths on a simple laboratory Geiger counting set. This was before the days of Germanium low background counting so sampling, counting and analysis took some considerable time. The sampling was done before dismantling in order to gain access to all areas.

The first task of dismantling was to strip out all the control and experimental cabling which extended approximately 50 -100m from the Control Room in the NPRL Building to the Machine Room.

The highly radioactive rotating target was removed by brute force and ignorance. It was considered unwise to unscrew each allen screw using an allen key in view of the very high radiation field (~3 Rem or 30 mSv per hour at 1 metre). Instead a sledgehammer and cold chisel were used to smash the screws. The target was then quickly lifted remotely and dropped behind steel plates in one corner.

The rotating condenser was easily removed, and sent to Liverpool Museum, where it is still stored.

After removal of the rotating condenser the stub tank was supported by the overhead gantry crane. An attempt was made to cut through the copper plate and aluminium frame using an

electric jigsaw. After breaking numerous blades on the aluminium frame and realising it was taking a considerable time in a not insignificant dose field it was decided to stand back and let metal fatigue do the task. The crane was raised and lowered repeatedly and after about 90 minutes the aluminium frame and copper plating sheared into manageable sizes.

The pole pieces were removed one by one. A radiation lab in Zurich was seeking a 10 ft diameter iron cylinder for shielding a new radiation experiment. As the residual activity of the pole pieces was not significant for them they were prepared to pay for transport of the pole pieces to Zurich. Accordingly each disc was cut in two using an automatically driven oxy-acetylene cutter. Each resultant semicircular segment was lifted out of the Experimental Hall and loaded onto a flatbed trailer using an Iron Fairy crane, this being the largest capacity crane that could drive in and out of the Experimental Hall. Its capacity was 5 tons and, as the heaviest segments weighed 7½ tons, two of the steel loaded concrete shielding blocks formerly creating the radiation shield between Machine Room and Experimental Hall were placed on the rear of the crane to keep its rear wheels on the ground. Three segments were placed on each trailer and despatched as radioactive material to Zurich via the Hull – Zeebrugge ferry.

Having removed the internal components of the machine the next task was to remove the steel plating in order to dismantle the yoke. There were electrical conduits clipped to the underside of the plating and these had to be removed prior to lifting the plates. We were assured by Dept of Physics and by Buildings and Estates (forerunner of Facilities Management) that all power had been disconnected from the basement, including all sockets and lights, leaving only the lights in the roof to provide some illumination in the building. Accordingly the conduits were severed using insulated cutters. Suddenly the building went dark. It was later discovered that all power had been disconnected during the period after shutdown and that the roof lights had been reconnected to the main machine circuit breaker instead of one of the auxiliary breakers. All round the building there were Emergency Stop buttons to prevent the machine being run up to power when someone was still in the Machine Room, life expectancy at full power being measured in seconds. The cutter had severed one of the Emergency Stop cables and had thus tripped the breaker turning all the lights out.

Two days later, lighting having been restored, the plating was successfully removed without further trouble.

At that time the National Disposal Service (NDS) operated by AERE usually accepted high and intermediate waste radioactive material at Harwell where it would be segregated. The higher activity items would be bulked for disposal at Drigg whilst intermediate level items would be stored at Harwell. However the higher activity items from the synchrocyclotron such as the target, etc were collected and taken direct to Drigg. The highest activity items were deposited in an old railway wooden box container (precursor of today's steel containers) on the back of a lorry whilst the intermediate activity items were secured to the flatbed behind the container. It is believed that the whole container was buried on the site at Drigg whilst the remaining items were simply offloaded into the disposal trench.

Much low-level radioactive copper and brass scrap, including miles of cables that connected the control room in the NPRL building to the machine, were buried in a 3 m deep pit somewhere at Otterspool Landfill Site which was at the river end of Jericho Lane, Liverpool, (later to become part of the 1984 Garden Festival Site). There were Environmental Health Inspectors from the Liverpool City Council present to ensure that it was buried at sufficient depth to avoid any being subsequently 'retrieved' for scrap. It was all done according to the rules of the time.

There were four persons involved in this initial stage of clearance. Three persons from AERE Harwell and myself from University of Liverpool. One of the Harwell staff was only in Liverpool for a fortnight prior to commencing his holiday. The other three of us worked on

the task for a month. During the fortnight that the first member of Harwell staff was present he was in the highest radiation fields and received 1.1 Rem (11 mSv) dose whilst the remainder of us averaged about 0.9 Rem (9 mSv) in the month. This relates to the then maximum of 5 Rem (50 mSv) per year or 1.3 Rem (13 mSv) in three months

This marked the end of the first phase of clearance.

The second phase of clearance was removal of the machine yoke. This was dismantled and loaded onto low-loaders but it is not clear where the components went. The contractors for this phase were Pickfords Heavy Haulage. By now the radiation field was insignificant and the contractors received minimal dose.

Having previously measured the residual activity in the walls and proving that the resultant dose to the public would be negligible, the University obtained sanction from the Department of the Environment to demolish the walls into the pit left by removal of the machine, (this being approximately 60 ft wide, 15 ft deep and 120 ft long)

The people who had the contract to demolish the concrete walls hit a real problem, as the structure was stiffened with 1½ inch thick reinforcing rods -- it took them about 6 months to pull the walls down, rather than the month or so originally planned. Initially they attempted to demolish the building merely using a wrecking ball. However they soon had to resort to using the ball to expose reinforcing bars then severing the bars using oxy-acetylene cutters.

Other memories of the Synchrocyclotron

During maintenance periods the technicians were required to enter areas of very significant radiation dose. Each was given a specific time within the work area which was frequently as low as 20 minutes in three months. The annual doses received by staff involved in maintenance frequently approached the then maximum permitted limit of 5 Rem (50mSv) per year.

During construction of the Metropolitan Cathedral there was close liaison between the synchrocyclotron staff and the construction contractors. This was to ensure that no pile driving or explosives were used whilst the beam was energised in order to avoid the possibility of vibration in the foundation causing beam misalignment.

Ivan Birchall was appointed Radiation Protection Officer in 1963. Soon after appointment he discovered a stray beam path exiting the Synchrocyclotron building and impacting on houses which then lined Duckinfield Street. He arranged for additional concrete block shielding on the North Western corner of the building to minimise the stray beam.

Paperwork relating to the operation of the Synchrocyclotron including dose records, control room operating logs, etc are housed in the University Archives.

Note: Doses noted in the above document are in the units current at the time (Rem)

IRPA NEWS

Full proceeding of the IRPA12 Congress are now available on the IRPA12 website.

<http://www.irpa12.org.ar/index.php>

Additional information is also available on the main IRPA website at - <http://www.irpa.net/>

Other news items on the main IRPA web site are -

1. The US National Council on Radiation Protection and Measurements (NCRP) has accepted IRPA as a Special Liaison Organisation. With this status, designed for organisations outside the US, IRPA will be invited to designate an individual to provide liaison with NCRP. This individual will receive copies of draft NCRP publications with an invitation to comment.

2. The IAEA Nuclear Information Database (INIS) is now available online. Access to over 3 million bibliographic records and almost 200,000 full text documents is available at no charge and registration is not required. The INIS home page has now been bookmarked on the IRPA web site Internet Resources Links page.

3. IRPA Website - This has now been upgraded with new servers giving much greater access speed. The Website Home Page has been streamlined with the Latest News portion of the Home Page more clearly identified. In addition there will be an increased use of graphics for more effective communication.

4. Associate Societies' Newspaper – By popular request a new Associate Societies' Newspaper has been added to the website. Items should be sent to the Publications Director at griffith@softcom.net - please keep items as brief as possible. Although exceptions can be made they should not exceed 500 words.

5. The IRPA Executive Council met in March. A major meeting topic addresses plans and preparations for the 13th IRPA International Congress to be held in Glasgow, Scotland 13-18 May 2012. A summary of the EC meeting can be found on the Home Page.

New Internet Search Engine

Interesting (free) scientific search engine, just launched by Wolfram Research.
See nuclear physics examples below at -

<http://www.wolframalpha.com/examples/NuclearPhysics.html>

RADIATION PROTECTION MEETINGS AT THE BIR

Controlling Radiation Risks in Diagnostic Radiology Tuesday 24 November 2009

Venue: The British Institute of Radiology, 36 Portland Place, London, W1B 1AT

Email: registrations@bir.org.uk

Web: <http://www.bir.org.uk/ControllingRadiationRisksinDiagnosticRadiology.html>

Diagnostic Radiology departments spend a large amount of time and effort on compliance with radiation protection legislation and guidance. The aim is to control radiation risks to staff and patients. But what are the risks? How do we control them? How do they compare with other risks in hospitals? How effective is current legislation? This meeting will address these questions, put the radiation risks from Diagnostic Radiology into perspective and examine the effectiveness of legislation in reducing risks.

This meeting would be of interest to:

Clinical Scientists, Radiographers, Radiologists and all those involved in the field of Diagnostic Radiology and Nuclear Medicine.

RPS Update Training Session Wednesday 25 November 2009

Venue: The British Institute of Radiology, 36 Portland Place, London, W1B 1AT

Email: registrations@bir.org.uk

Web: <http://www.bir.org.uk/RPSUpdateTrainingSession.html>

This meeting will give an update on training for those people appointed as Radiation Protection Supervisors but will also be of value to people working in a range of radiation areas – diagnostic radiology, nuclear medicine and radiotherapy. Topics will include a review of radiation hazards and legislation, the role of the RPS and pregnancy and radiation. The meeting will also include interactive sessions on radiation risk assessment and local rules as well as monitoring issues and incidents.

This meeting would be of interest to:

Radiographers, Technologists and Nurses acting as Radiation Protection Supervisors or Advisors and those involved in Diagnostic Radiology, Nuclear Medicine and Radiotherapy.

For further information on any of these events or to register, please contact the Conference Office on +44 (0)20 7307 1411/06 or by email to registrations@bir.org.uk

BOOKS AND PUBLICATIONS

Radiological Consequences Resulting from Accidents and Incidents Involving the Transport of Radioactive Materials in the UK – 2007 Review - HPA-RPD-048

http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1232436508409

Richard W. Poeton et al

Planning For The Worst In Washington State: Initial Response Planning For
Improvised Nuclear Device Explosions

Health Physics, Vol. 96, No. 1, January 2009

Mary Ann et al

Conclusions Of The Capstone Depleted Uranium Aerosol Characterization And Risk
Assessment Study

Health Physics, Vol. 96, No. 3, March 2009

Incidents involving radioactivity case study

SubTitle: Learning lessons from the Litvinenko case

<http://publications.environment-agency.gov.uk/pdf/GEHO0109BPDT-e-e.pdf>

Rapid response extinguishes risk at Quedgeley

<http://publications.environment-agency.gov.uk/pdf/GEHO0209BPDU-e-e.pdf>

NDAWG Guidance Note 3 - Guidance On Exposure Pathways

<http://www.ndawg.org/documents/NDAWGGuidanceNote3v1.0.pdf>

High Dose Radiation Effects and Tissue Injury – HPA - RCE 10

http://www.hpa.org.uk/web/HPAwebFile/HPAweb_C/1237362785677

R. J. Barish

Health Physics and Aviation: Solar Cycle 23

Health Physics, Vol. 96, No. 4, April 2009

Guidelines On Limits Of Exposure To Static Magnetic Fields – ICNIRP

Health Physics, Vol. 96, No. 4, April 2009

Radon and Public Health – HPA - RCE 11

http://www.hpa.org.uk/web/HPAwebFile/HPAweb_C/1243838496865

Radiation Protection news - 30 March, 2009 - HSE

<http://www.hse.gov.uk/radiation/rpnews/rpnews300309.htm#a2>

John Scott, University of Leicester

IAEA Publications

The IAEA is pleased to announce four new publications in the area of human health:

[Radiation Protection in Newer Medical Imaging Techniques: PET/CT](#)

Safety Reports Series No. 58

The emergence of hybrid systems, such as positron emission tomography (PET) and computed tomography (PET/CT), has stimulated much interest. This Safety Report reviews radiation protection issues arising from the use of PET/CT and offers guidance on dose management and optimization. It provides data on patient dose and risk levels, as well as information for practitioners on optimizing techniques.

[STI/PUB/1343, 2008, ISBN 978-92-0-106808-8, English. 28.00 Euro](#)

[Radiation Protection in Newer Medical Imaging Techniques: Cardiac CT](#)

Safety Reports Series No. 60

This publication has been developed by the IAEA in collaboration with the World Health Organization, the International Society of Radiology and the International Commission on Radiological Protection. It addresses issues associated with high patient doses received from multi-detector computed tomography (MDCT) in cardiac imaging and provides data on patient dose and risk levels, as well as information for practitioners on optimizing techniques.

[STI/PUB/1366, 19 pp.; 3 figures; 2009, ISBN 978-92-0-111208-8, English. 18.00 Euro.](#)

[Radiation Protection in Newer Medical Imaging Techniques: CT Colonography](#)

Safety Reports Series No. 61

This publication has been developed by the IAEA in collaboration with the World Health Organization, the International Society of Radiology and the International Commission on Radiological Protection. It addresses issues associated with high patient doses received from multi-detector computed tomography (MDCT) in colonography and provides data on patient dose and risk levels, as well as information for practitioners on optimizing techniques.

[STI/PUB/1367, 27 pp.; 1 figures; 2009, ISBN 978-92-0-111308-5, English. 20.00 Euro.](#)

[Strategies for Clinical Implementation and Quality Management of PET Tracers](#)

This publication presents strategies for the clinical implementation and quality management of positron emission tomography (PET) tracers. PET methodologies, which visualize in vivo biochemical, physiological and pharmacological processes, have revolutionized patient diagnosis and care. These technologies have opened up novel possibilities for non-invasive medical procedures and individualized patient management. The ultra-short half-lives of PET tracers, together with the busy and demanding nature of clinical settings, add to the complexities and create a need for more robust quality management programmes. This publication focuses on the clinical setting and aims to raise awareness of the issues involved and suggest means to reduce risk. The purpose of the guidelines is to encourage a proactive approach to each aspect of parametric release and propose practical test methods for each criterion for parametric acceptance, thereby helping to ensure the quality of PET products.

[STI/PUB/1344, 197 pp.; 35 figures; 2009, ISBN 978-92-0-107008-1, English. 44.00 Euro.](#)

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

sales.publications@iaea.org fax: +43 1 2600 29302 / tel.: +43 1 2600 22529 /

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



Association of
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RADIATION
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AURPO Subscription Form 2009-2010

To all Members

The annual subscription of £25 (£10 for retired members) to the Association is due on the 1st July 2009. Members who attend the Annual Conference in September may pay the subscription fee at the time of registration.

Please fill in the form below. If paying by cheque make it payable to AURPO, attach it to this page and send it to me at the address below.

If paying by other way, *regardless of the method*, or not renewing your membership, please complete the form below and **e-mail it back to me**.

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Invoice Required		Number	
Receipt Required		Number	
I confirm my membership of IRPA through the Association			
<i>I do not wish to renew my membership (please ' X ')</i>			
Title	E-mail		
Name			
Address			
Phone		Fax	
Signed		Date	

Please note that it is now a condition of membership that all subscriptions must be paid by **30th September**, but unless paying via the Conference, please pay as early as possible, any time from now on.

Thank you
Gillian Glazier
Honorary Treasurer
(NB full contact details on page 1)