



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

March 2008

**AURPO NEWSLETTER**

Editor T.J.Moseley

### CONTENTS

	Page No.
1 Honorary Life Members from Greenwich	2
2 Editor's Introduction	4
3 Treasurer's Notes	4
4 President's Report	5
5 Scientific Program for Liverpool 2008	6
6 Flyer for proffered papers	7
7 Review of Exemption Orders, Options Assessment – Reading 30 <sup>th</sup> January	8
8 DEFRA and EA News	11
9 News from HSE	15
10 Optical Radiation Directive – Non-binding Guide	16
11 BSI Press Release on BS EN 60825-1:2007	17
12 Comments on ICRP Draft 4a Environmental Protection	18
13 News from HPA – Radiation Protection Division	19
14 News from Affiliates – Croft Associates & PerkinElmer	20
15 SNIPPETS – GTLDs, Mini Monitors, Transport Regulations	21
16 Bone Mineral Densitometry	22
17 Goiânia – Why we have HASS today	23
18 2007 Recommendations of ICRP	24
19 IAEA publications	25
20 Other Publications	26

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**Trevor Moseley (University of Sheffield) receiving the Certificate of Honorary Life Membership from our President Sonia Nuttall at the Conference Dinner in the Painted Hall, Greenwich, Sept 2007.**



**Dr Gus Zabierek (University of Birmingham) receiving the Certificate of Honorary Life Membership from our President Sonia Nuttall at the Conference Dinner in the Painted Hall, Greenwich, Sept 2007.**

## EDITOR'S INTRODUCTION

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Just got it out before end of March – time just flies by, but I remembered to put the photos from Greenwich in this time (see above) – sorry Gus!

There is a lot happening at the moment with meetings and reviews mostly concerning DEFRA/EA issues. I trust everybody got their HASS financial provisions in place by January. If anybody has some good deals to let on about or some interesting stories please let me know. The new EA charging scheme arrangements for Band 4S sources have caused a number of people to reconsider their need for a sealed source licence, with some getting out of the business. With the number of small users declining the rest of us will have to pick up the increased regulatory cost unless the EA prunes its activities to match. Read more inside.

**Contributions for next issue by 30<sup>th</sup> June 2008 preferred format Word emailed to -**

[t.j.moseley@sheffield.ac.uk](mailto:t.j.moseley@sheffield.ac.uk)

## Treasurer's Notes

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The financial year is coming very quickly to an end and we still have some issues to address:-

- Firstly there are still 5 people with outstanding amounts on their Conference Fees from last September. You know who you are, you have been contacted more than once. Please chase your finance departments so I can get this issue settled.
- Secondly there are still some Health Physics monies to come in, and,
- Thirdly there are still some outstanding subs for 2007/8. If you are uncertain if you have paid or not please e-mail me at - [gcglazier@btinternet.com](mailto:gcglazier@btinternet.com)

The financial year terminates at the end of March, so I would be most grateful if you could address these issues and make the Treasurer's job a little easier.

Thank you  
Gillian

### **Another Subject – Free Stuff**

Due to pressure on space and disinterest by academics, we have closed our radiation lab here at Greenwich. I still have, for a short while, all our equipment in storage & it would be better for it to be reused rather than skip it. I don't have a comprehensive list as yet, but there are ST 5 & 6 scalers, solid & liquid castles, end-on scintillation detectors, monitors, an alpha spectrometer unit, monitors & all the associated trappings of a lab.

Please come & take it, or I will courier stuff off to you - all it will cost is the P & P.

First come first served.

Please contact me for more details if you are interested.

**Gillian Glazier, Univ of Greenwich**

Tel 020 8331 8320

Fax 0208331 8305

## **PRESIDENT'S REPORT**

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We congratulate SRP, our partner Society, in gaining the Charter Status. SRP was granted a Royal Charter to the Society on the 10<sup>th</sup> December 2007. Under By Law, up to 9<sup>th</sup> January 2009 AURPO members who are not SRP members could apply for the Charter status, by filling in the full application form, through fast track under Grandfather's right. You will find the full application form on SRP website.

For the benefit of absent members at last year conference may I mention another memorable occasion in the Painted Hall at Greenwich. The Association gave Life Membership to two exceptional members who are devoted to the causes of Radiation Protection and have done much good work beneficial to AURPO and its members. They are Trevor Moseley and Gus Zabierek. Congratulations to both of you again.

The Annual Conference this year will be at University of Liverpool starting on Tuesday 2<sup>nd</sup> September at 14.00 p.m. with an update session. The theme for scientific meeting on Wednesday the 3<sup>rd</sup> September is "Non Ionising Radiation Updates and Radiation Emergency Response". You will all be receiving the invitation and registration forms very soon.

As Liverpool is the Capital of Culture this year the accommodation is not so flexible as before. To help the local organiser I would appreciate members who wish to attend the conference to send in the registration form early. Also members who require double room please get in touch with the organiser as soon as you receive the registration as we have a limited number of double rooms available.

STC has circulated the call for papers from up and coming scientists. The chosen papers will be presented on Tuesday afternoon of the conference. The quality of the chosen papers presented in the past two years has increased and we hope to get better and better papers coming our way. The successful presentation at the conference will be awarded with a prize of £250.

I can confirm that the 2009 Annual Conference and AGM will be at University of Wales, Cardiff. Tony Richards will be the local organiser and is liaising with the University of Wales Health and Safety Office to ensure that we have a comfortable and enjoyable stay.

In 2010 we will go back to Cambridge at Downing College. Libby Yates and David Plumb are in the early stage of planning. We are looking for the offer to host the 2011 Annual Conference and AGM. Year 2011 will be a special year for the Association. It is the 50<sup>th</sup> Anniversary meeting. Please come forward with an offer if you would like to host this memorable event for the Association.

Any ideas or kind offers of help in any way for the running of association businesses will be very much appreciated. Please remember, after all, the Association belongs to all of its members.

I look forward to meeting many of you at the Conference in Liverpool in September.

**Sonia Nuttall**  
**4<sup>th</sup> March 2008**

## Scientific Program – AURPO Liverpool Sept 2<sup>nd</sup>-3<sup>rd</sup> 2008

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### Non-ionising radiation update and radiation emergency response

Proceedings will start on the Tuesday afternoon (*final timings still to be arranged*), when once again we are looking for proffered papers. Please try and encourage people to put something forward. After the proffered papers there will be some presentations on subjects requested by members. These will include :

- Appropriate security for radioactive materials – Det Sgt Moynihan Liverpool CTSA
- Safeguards Regulations – nuclear fuel cycle research activities and use of uranium and thorium – Dr Lawrence Johnson (HSE Safeguards Office)
- Depending on proffered papers if there is time we hope to give an update on the Exemption Order Review.

### Wednesday Scientific Program

#### Morning session on non-ionising radiations.

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

#### Afternoon session on emergency response to radiation incidents.

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

**T J Moseley (Chairman of STC)**

**26.03.2008**



# Association of University Radiation Protection Officers

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## Scientific Meeting Liverpool 2<sup>nd</sup> – 3<sup>rd</sup> Sept 2008 CALL FOR PAPERS

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This call is to scientists working in the life, earth and physical sciences (in particular, to M.Sc, Ph.D and post-doctoral students) to bring their ideas, research and scientific developments to the attention of the radiation community on the opening day of this annual conference. There are no restrictions on the subject area, although there should be some relevance to future developments in radiological protection and the future uses of ionising and non-ionising radiations.

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- Awards covering conference fees, travelling & subsistence will be available to successful candidates together with a prize of £250 awarded to the best student presentation.
  - Authors should submit their abstract, details of their status and the name of their institution by the 31<sup>st</sup> March 2008 at the latest. Send submissions to Penny Giorgio – [p.giorgio@surrey.ac.uk](mailto:p.giorgio@surrey.ac.uk)
  - The abstracts will be judged by the AURPO Scientific and Technical Committee, and selected speakers notified by the 30<sup>th</sup> April.
  - Although a full written paper will not be required, authors must make a handout covering the salient points of the presentation available to the organisers by 31<sup>st</sup> July.
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*AURPO facilitates work with sources of ionising and non-ionising radiations in Universities and research institutions through the provision of scientific support and advice on radiation protection matters. See [www.aurpo.org](http://www.aurpo.org)*

## Review of Exemption Orders, Options Assessment Workshop

30th January 2008, DEFRA Innovation Centre, Reading

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This workshop followed on from previous meetings and consultations with stakeholders and aimed to further explore the options for the potential architecture or overall structure of any new Exemption Order (EO) regime. The workshop was well attended with 51 delegates from the nuclear & non-nuclear sector, representatives from central & devolved government, regulators and other NGOs.

The day began with short presentations from Allan Ashworth, Chris Wilson, Fiona Shand & Katherine Mondon (DEFRA) to introduce the assessment methodology and to outline the objectives of the workshop. At the end of the day it was hoped to arrive at a consensus on the preferred architecture option, which in turn, would be developed as a paper to be put to formal public consultation. Six options were presented and are summarised below;

Option 1 – do nothing	Option 2 – minor updates of existing EOs	Option 3 – full updates of existing EOs	Option 4 – re-brigading of EOs	Option 5 – top level EOs with all the detail in schedules	Option 6 – goal setting/dose based approach
		Reappraisal of numerical values			N/A
		Reappraisal of SoLA			
		Reappraisal of Schedule 1			
	Revocation of the Exhibitions EO and Precipitated Phosphate EO				
	Guidance on operation of EO regime				

\*Adapted from DEFRA paper: Options for Architecture

The 'do-nothing' option requires no further explanation. Minor updates under Option 2 would involve ensuring consistency with RSA93, using modern units, simplifying language and standardising the layout across the remaining suite. Full updates under Option 3 would further require the reappraisal of numerical values and a review of the coverage of the orders, particularly for hospitals & schools.

Option 4 would build upon the requirements of 'lesser' options but re-brigading would consolidate the existing regime. Existing EOs covering 'contained' sources (Testing Instruments, Gaseous Tritium Light Devices, etc.) would merge into a single Order for *users of manufactured instruments and articles*. Existing EOs covering 'open natural' sources (Uranium & Thorium, Geological Specimens, Gas, etc.) would merge into a new EO for *users of naturally occurring radioactive material*. The Hospitals, Schools, Storage in Transit, Waste Closed Sources and Substances of Low Activity [SoLA] EOs would all be retained.

Under Option 5 only two top-level EOs would exist. The "Type 1" EO would be intended to cover unconditional exemption and contain schedules of all materials exempt from registration and authorisation under RSA93. Likewise, the "Type 2" EO would contain schedules of all materials exempt from registration and authorisation but would also contain the material-specific conditions to be met in-order for the EO to apply. The Type 2 EO thus forms a 'generic authorisation'.

The framework proposed under Option 6 would be unrecognisable with today's system. It would involve the replacement of the current suite of EOs with a single statutory instrument that enables the Secretary of State to permit any practice to be exempted from RSA93 based

upon risk (i.e. a de minimis value of dose) or impracticability (i.e. a practice not amenable to regulation). Practices exempted under the current system and satisfying the risk or impracticability requirement would be translated to a public register forming an initial list of exempted practices. Through a mechanism included for in the new regulation subsequent additions to the list would be possible.

Horizon scanning was also discussed and it was noted that the renegotiation of the BSS directive would have a high impact on RSA93 and the present review. The Environmental Permitting Programme would have a direct influence on Option 6. John Cooper (HPA) presented a report from the Schedule 1 Expert Group, whose remit is to evaluate the merit of amendment to Schedule 1. The group is currently examining exclusion based upon a pure qualitative approach in RSA93 *with* exemption covered through a new risk-informed EO architecture.

Then the work began. Delegates were divided into groups and asked to circulate between display boards headed with a specific attribute and invited to comment (mediated via 'post-its!') on how each option matched each attribute. A ranking exercise was later conducted where options were scored against each attribute. Electronic voting rounded off the event. It would be pointless (impossible) to try and give you anything other than the gist of what went on. Opinion, on a wide range of topics, was not necessarily concordant. The attributes are detailed below together with a synopsis of (the majority's) opinion expressed on the day;

- **Attribute 1. The degree of compatibility with other policy and regulatory initiatives i.e. 'future proofing' against statutory change.** Options 1 & 2 were considered to be incompatible with the better regulation agenda and the concept of future proofing, in fact, not even compatible with current legislation. Option 5 was thought to be the best fit with regard existing regulation strategy whereas Option 6 was perceived to offer the best capability for future proofing. Both of these scored equal (10/10) as the most compatible with attribute 1 in the ranking exercise.
- **Attribute 2. The ability to adapt to new circumstances and practices i.e. 'future proofing' against technological advances.** Options 1-3 were not considered to be future proof in this respect. It was felt that future changes could be made easily for Option 4. Most believed that Options 5 & 6 matched this attribute unequivocally, although Option 6 came out top (10/10) in the ranking, possibly because 5 would still require amending a statutory instrument to accommodate technological change.
- **Attribute 3. Beneficial change in administrative or financial burdens over the current situation; would the resulting burden outweigh the benefit?** The cost in implementing Options 1-3 was perceived to outweigh the benefit. Some thought Options 4 & 5 to be essentially differences in presentation, although of the two, adoption of Option 5 was favoured because of apparent low ongoing costs (post-implementation). The consensus expressed that Option 6 would generate the greatest benefit as a whole although at significant cost. For this reason, it came last in the ranking exercise (0/10) together with Option 1 (on the grounds that Option 1 was seen to result in deferred cost). Options 4 & 5 scored the highest with regards compatibility with the attribute (10/10).
- **Attribute 4. The proportionality to the human and environmental risks involved; would an option be inherently risk-informed?** Options 4-6 were generally considered to be risk informed. People were of the opinion that Option 6 suffers because of unknowns about the assessment process required to qualify a practice as being exempt, but this did not affect it's ranking at the top of the table. Options 3-5 were rated as equal (7/10).
- **Attribute 5. The expected development time for the proposed new regime; would the implementation time be detrimental to the projects momentum?** Comments received

placed Options 1 & 2 as the quickest to implement (and unsurprisingly put them at the top of the rankings), but the majority added that it would be a total waste of time. Broadly similar timescales were thought to be achievable for Options 3-5, with 5 ranked bottom of the table. Mixed feelings on Option 6 were apparent with some considering that implementation (i.e. of the register) would become a drawn out affair.

A single display board was available for delegates to note general comments. Provision of easily changeable lists/schedules carried a lot of weight with attendees. Transparency on how future numerical values would be developed and their compatibility with values in other regulatory regimes (particularly the trans-frontier shipment, nuclear and transport regimes) were perhaps the most noteworthy. The review was reminded of the need to ensure that adequate disposal facilities would be widely accessible. Throughout the day much group discussion took place either following presentations or around display boards. The reappraisal of SoLA generated many questions; the benefits of using IAEA values, having bulk clearance levels, having values for liquids & gasses, and decay storage. Brief reference to 'EO' guidance on a new exemption framework was made with requests for concurrent development.

To stimulate discussion, presentations on the implications of Option 6 were made from the government perspective (Chris Wilson, DEFRA), the regulators perspective (Steve Chandler, EA) and the user perspective (Richard Harrison, research sector). Several questions emerged. Would an exempted-practice review committee and appeals process be required by each of the devolved administrations? Exempted practices could not be subject to permit charging and so how would the regulators recover the cost of a new regime? What would be the response time for amending the public register of exempted practices? Would amendment be progressed fast enough given the highly competitive nature of modern research/industry?

It seemed that although Option 6 could offer the most, too many uncertainties concerning the implications of implementation generated reservations amongst the stakeholders present. Moreover, concern over the regulatory burden (on both the regulator & regulated) was often expressed. Response from the floor did offer one thought to bear in mind - once the initial register is produced, what would be the frequency/likelihood of the need for additions to it and in turn, would this outweigh the effort required to apply?

To conduct the electronic voting a weighting was applied to each attribute based upon the perceived relative importance to attribute 1 (participants were able to enter their own weightings). As to be expected, attribute 5 (development time) was considered the least meaningful attribute. Attributes 3 & 4 had a more-or-less level ranking as most important. Voting indicated that the group's favoured Option was 5, with Options 6 & 4 following closely behind (stay awake, this isn't the Racing post..... its still the newsletter). Options 1 and 2 were way behind in the running.

There seems now to be a lot of momentum with this project so let's hope that the long awaited improvement over the status quo can now be realised. All in all, I felt that the day was a very well organised, enjoyable and productive event - recommended.

**Mike Sobanski, Cardiff University**

## DEFRA and EA NEWS

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### **BAT, BPM and BPEO and the UK Discharge Strategy**

The review of the UK Discharge Strategy is gathering pace and the likelihood of new nuclear build is having an impact on developments with considerations of non-nuclear disposals and NORM disposals being brought into the equation and perhaps ‘Close to Zero’ is not as close as some environmentalists would have hoped. Formal consultation of the new Strategy will not be far away now. The following are the main changes that can be expected:-

- Extended time period (2006-2030 as opposed to 2001-2020)
- Inclusion of liquid and aerial discharges from the non-nuclear sector
- Inclusion of aerial discharges from nuclear installations
- Requirement for separate forward profiles for discharges arising from decommissioning and clean-up on nuclear sites
- Inclusion of discharges from the management of radioactive waste
- Inclusion of NORM discharges from the fossil fuel sector
- Finally a change that will require careful consideration and that is a move from BPM and BPEO to BAT (Best Available Techniques)

With its draft consultation DEFRA have not been explicit in defining what they mean by BAT but hopefully this will be resolved before the consultation gets to a wider audience. To the layman, ‘Best Available’ sounds a lot more onerous than ‘Best Practicable’ so clear unambiguous definitions of what will be required is essential before we can pass judgement.

DEFRA in their draft consultation define BPM as ‘that level of management and engineering control that minimises, as far as practicable, the release of radioactivity to the environment whilst taking account of a wider range of factors, including cost-effectiveness, technological status, operational safety and social and environmental factors. This includes consideration of the full range of relevant environmental, social and economic factors relevant to the principal of sustainable development.’

BPEO is described as ‘the radioactive waste management option, for a given practice, that provides the most benefit or least damage to the environment as a whole, in the long term as well as in the short term, taking into account operational doses and risks and social and economic factors. This includes consideration of the full range of relevant environmental, social and economic factors relevant to the principal of sustainable development.’

BAT has been used in Europe but a combination of BPM and BPEO have been used in the UK. EA considers application of BAT to be broadly equivalent to applying BPM and BPEO.

The EA have just published an 11 page draft document on the meaning of BAT but the IPPC Directive gives a guide to what to expect:-

**‘Best Available Techniques’** shall mean the most effective and advanced stage in the development of activities and their methods of operation which indicate the practical suitability of particular techniques for providing in principle the basis for emission limit values designed to prevent and, where that is not practicable, generally to reduce emissions and the impact on the environment as a whole.

The meaning of the individual words is then expanded as follows:-

**‘best’** shall mean most effective in achieving a high level of protection of the environment as a whole.

**‘available’** techniques shall mean those developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the costs and advantages, whether or not the techniques are used or produced inside the Member State in question, as long as they are reasonably accessible to the operator.

**‘techniques’** shall include both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned.

There should be no need for any dramatic changes especially for small users and when your BPM assessment is due for review it should transform itself into a BAT assessment. As with the BPM the BAT assessment should be proportionate to the operation and quantities of radioactive materials used. A key component of BAT will be sector guidance as it will be at that level that issues of practicality and cost should be addressed.

Assessment of BAT will form part of the EAs Radioactive Substances Regulation Environmental Principles which are currently being developed. A workshop on this topic will be held in Reading on April 4<sup>th</sup> and a further report will be in the next newsletter.

## **DEFRA LLW Survey**

Do not forget to complete the LLW survey which WS Atkins are organising on behalf of DEFRA. It may seem a bit cumbersome to get into and then look a bit daunting to complete but it is much simpler than it seems and they don't really want that much information. The best way of going about it is to print out the instruction/help sheet and have a read through it, then have your data ready from 2007 (burial or incineration) . You need to specify volume and weight (possibly estimated) and then activities (NB when they say betas they mean betas and gammas). There is also a requirement to enter data from a previous year – use something from 3 or 4 years ago and that will help you see if there is likely to be a trend that can be reflected in the estimated figures for 2010.

If you have queries about the questionnaire, or experience any difficulties with filling it in or need a new password to access it, please contact Simon Mussett -

[Simon.Mussett@atkinsglobal.com](mailto:Simon.Mussett@atkinsglobal.com)

Atkins would be grateful if you could kindly complete the questionnaire by 25th April.

## **Environmental Permitting Programme (EPP)**

EPP is a ‘better regulation initiative’. It is supposed to be streamlining regulations replacing 40 SIs with one set of regulations. The new regulations should be one third of the length, deliver more flexibility and represent a simpler risk-based approach – or so they say! Part of the second phase of this rationalisation will take on board radioactive substances regulation. What this will mean for us I have yet to find out, but I have been invited to a meeting on 30<sup>th</sup> April when I hope all will be revealed. Some background information can be found on the DEFRA web site-

<http://www.defra.gov.uk/environment/epp/index.htm>

## EA Enforcement and Prosecution Policy

The Environment Agency has revised its guidance on its enforcement and prosecution policy <http://www.environment-agency.gov.uk/commondata/acrobat/enfpolicy.pdf>

The full guidance document can be found at -

[http://www.environment-agency.gov.uk/commondata/acrobat/epp17\\_1803748.pdf](http://www.environment-agency.gov.uk/commondata/acrobat/epp17_1803748.pdf)

It was issued on 05/12/07 and is next due for review by 05/03/09. Section 6 of the guide which relates to RSR issues is reproduced below. For full understanding of some of the treatment of offences one may need to reference RSA93 and the enforcement policy itself.

### Treatment of RSR - **Radioactive Substances Act 1993**

Inspectors are asked to always refer to all the public interest factors when determining a response.

1. Section 32(1)(a) - Use of radioactive material without registration
  - Normal criminal enforcement response: prosecution.
2. Section 32(1)(a) - Use of mobile radioactive apparatus without registration
  - Normal criminal enforcement response: prosecution.
3. Section 32(1)(a) - Disposal of radioactive waste without authorisation
  - Normal criminal enforcement response: prosecution.
4. Section 32(1)(a) - Disposal of radioactive waste from mobile radioactive apparatus without authorisation
  - Normal criminal enforcement response: prosecution.
5. Section 32(1)(a) - Disposal of waste received from others without authorisation
  - Normal criminal enforcement response: prosecution.
6. Section 32(1)(a) - Accumulation of radioactive waste without authorisation
  - Normal criminal enforcement response: prosecution.
7. Section 32(1)(b) - Failure to comply with a limitation or condition of a registration
  - Normal criminal enforcement response: for
    - CCS Category 1 - prosecution
    - CCS Category 2 – formal caution/prosecution
    - CCS Category 3 or 4 - warning
  - Normal Remedial response: consider service of an enforcement or prohibition notice under Sections 21 or 22.
8. Section 32(1)(b) - Failure to comply with the limitation or conditions of an exemption from registration. If the failure to comply means that the operator is using radioactive material or mobile radioactive apparatus without registration then refer to 1. or 2. above.  
Otherwise:
  - Normal criminal enforcement response: for breaches which have resulted in or have the potential to result in a:
    - Category 1 incident – prosecution
    - Category 2 incident – formal caution/prosecution
    - Category 3 or 4 incident – warning
9. Section 32(1)(c) - Failure to comply with a limitation or condition of an authorisation
  - Normal criminal enforcement response: for
    - CCS Category 1 – prosecution
    - CCS Category 2 – formal caution/prosecution
    - CCS Category 3 or 4 - warning

- Normal Remedial response: consider service of an enforcement or prohibition notice under Sections 21 or 22.
- 10. Section 32(1)(d) - Failure to comply with the requirements of an enforcement notice
  - Normal criminal enforcement response: prosecution.
- 11. Section 32(1)(d) - Failure to comply with the requirements of a prohibition notice
  - Normal criminal enforcement response: prosecution.
- 12. Section 33(1) - Failure to properly display a certificate of registration or authorisation
  - Normal criminal enforcement response: warning (may be escalated to a formal caution or prosecution where the offence is repeated).
  - Normal Remedial response: consider service of an enforcement notice under Section 21.
- 13. Section 33(2) - Pulling down or defacing a posted certificate of registration or authorisation
  - Normal criminal enforcement response: warning
- 14. Section 33(3) - Failure to retain copies of records for the period specified in an S20 notice
  - Normal criminal enforcement response: prosecution.
- 15. Section 33(3) - Failure to furnish copies of records required under a S20 notice
  - Normal criminal enforcement response: prosecution
- 16. Section 34A(1)(a) - Disclosure of information relating to a relevant process or trade secret
  - Normal criminal enforcement response: hard to envisage circumstances when the Environment Agency would need to take such action. Seek advice from RSR Policy/Process.
- 17. Section 34A(2) - Intentionally making a false record kept as a requirement of a registration or authorisation
  - Normal criminal enforcement response: prosecution.
- 18. Section 34A(2) - Intentionally making a false record in purported compliance with an exemption from registration or authorisation
  - Normal criminal enforcement response: prosecution.

## **Environment Act 1995**

- 19. Section 110 EA – Obstruction
  - Normal criminal enforcement response: Prosecution **ALWAYS**

## **EA – Effective Communication**

Small user representatives, including Trevor Moseley, Richard Harrison and Alan Muir, met with consultants on 21<sup>st</sup> February to consider how well EA was communicating with the non-nuclear (small user) sector. Well they couldn't have picked a worst time from their point of view as 2007 was an EA 'annus horribilis' when they seem to have upset a lot of small users with their introduction of the HASS regulations and their treatment and definition of sources of 'similar potential hazard'. The message the EA should get back is that they can and should do a lot better with many of the small user gripes being nothing new – here is a selection of the complaints we made:-

- Long term inadequacy of EA databases, so that they often still fail to communicate with the right people. Why this still is after numerous complaints over the years is incomprehensible especially given the relatively small number of licences held.

- Difficulties with the website – not being kept up to date (giving out of date advice) and being difficult to navigate.
- They need to sort out the issue of consistency in regulators approach countrywide and also between policy and field inspectors. Effective communication from Policy to Field Inspectors should be their number 1 priority.
- There was a general dissatisfaction with HASS arrangements, financial provision requirements and the poor guidance on this aspect of HASS.
- A few years ago there was a regime of moving towards more self-regulation when you could demonstrate good management control – where is this now? We now seem to be moving to more regulation and more charging. When the EA introduced the new management conditions for BPM into Authorisations this was done with a free variation, now people are being asked to apply for a new sealed source registration for Band 4S so that additional security clauses can be added – we could not see how this could be justified.

Other members should have been contacted by phone – it will be interesting to read the consultants report.

**T.J.Moseley Univ of Sheffield**

## **NEWS FROM HSE**

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Just to confirm that there will be a short description of the Open Space meeting that was held in Nov 2007 in the next RP News. The meeting was based on issues in the medical sector and involved RPAs in that field as well as equipment manufacturers.

There was no meeting of the Ionising Radiations Health and Safety Forum in 2007 as there was insufficient topics raised by HSE and external members to warrant holding the meeting and as such the Forum will now only be convened when there is sufficient content to need it.

In relation to RP News, as I announced at the AURPO Conf in Sept, we will no longer be producing a periodic publication but move to a web based news system instead. In this way we can publish articles in a more timely and flexible manner and also compile a topic searchable system for the previous editions currently on the website by date only. We have had some technical resource problems getting this running but hope to do so within the next couple of months.

**Gareth Thomas**  
**HSE Specialist Inspector (Radiation)**

## **OPTICAL RADIATION DIRECTIVE NON-BINDING GUIDE - ASSISTANCE REQUIRED.**

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The Optical Radiation Directive was published in the Official Journal of the European Communities on 27 April 2006 (Ref: L114) under the title of "[Directive 2006/25/EC on the minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents \(artificial optical radiation\)](#)". The Directive has to be implemented in Member States by 27 April 2010. The scope of the Directive is quite broad and essentially covers all optical radiation, except that from natural sources such as the sun.

The Radiation Protection Division of the Health Protection Agency has been contracted by the European Commission to draft the non-binding guide to the Artificial Optical Radiation Directive. Whilst the guide is primarily aimed at managers of small and medium-sized enterprises, it is hoped that it will also appeal to a wider audience. It is understood that the guide will eventually be freely available from the EU web site.

HPA-RPD is collating information to assist it in putting the guide together, this includes:

- The range of artificial optical radiation sources that employees may be exposed to. For area lighting, this may only need to be considered if it is "special".
- Whether there are work practices where employees are likely to exceed the ICNIRP exposure limits.
- Whether there are situations where employee exposure to optical radiation is likely but has not been quantified or no information on the level of exposure is available.
- Which sources can be considered "safe" under all reasonably foreseeable conditions.
- Any issues relating to spin-out companies from Universities.

HPA-RPD is planning to undertake a number of on-site assessments to support the guide. If any establishment has a unique or particularly complex exposure situation then HPA-RPD would be interested in those. It is also keen to identify examples of good practice and establishments willing to share those.

In the first instance, to assist Dr John O'Hagan, HPA-RPD, Chilton, I have put a list of potential sources together. Please take the time to look through this list. If you have additions to the list or areas where you may have any special issues please respond direct to me [g.a.zabierek@bham.ac.uk](mailto:g.a.zabierek@bham.ac.uk) or John O'Hagan [joh.hpa@btinternet.com](mailto:joh.hpa@btinternet.com).

### **NEW BS Laser Standard**

For information on the latest version of BS EN 60825 please see following press release from BSI. I know a lot of members are signed up to BSI online, but for those that are not you might like to know that HPA have a licence to sell discounted copies of the 60825 series, plus BS EN 207 and 208. A price list is available by emailing [laser@hpa.org.uk](mailto:laser@hpa.org.uk).

**Gus Zabierek and John O'Hagan**

## **PRESS RELEASE - ACKNOWLEDGEMENT TO BSI**

### **BS EN 60825-1:2007 Safety of laser products. Equipment classification and requirements.**

#### **Overview**

**BS EN 60825-1:2007 Safety of laser products. Equipment classification and requirements** is applicable to the safety of laser products emitting laser radiation in the wavelength range 180 nm to 1 mm. It provides a classification scheme and engineering, labelling and information requirements.

Its primary aim is to provide a classification scheme to assist users of laser products make informed decisions regarding the risks associated with intentional and unintended exposure to laser radiation.

In addition to covering requirements for products, the use of correct marking of laser products and systems is also covered, from a protection of persons in a workplace perspective, by the [Health and Safety at Work etc Act](#). Therefore, businesses using lasers or laser products in the workplace must comply with BS EN 60825-1 in order to show due diligence.

BS EN 60825-1:2007 contents include:

- Normative references
- Terms and definitions
- Engineering specifications
- Labelling
- Other informational requirements
- Additional requirements for specific laser products
- Classification
- Determination of the accessible emission level

How has it changed?

- The structure of the standard has been completely revised to make the document easier to use by manufacturers and users
- An updated system of classification is defined regarding accessible laser radiation and the associated provision of information requirements
- The Accessible Emission Limit tables have been simplified for small-source lasers
- The methodology for determining the appropriate value has been clarified
- Light emitting diodes (LEDs) have been deleted from the scope of this document except for communication applications. LEDs are covered by IEC 62471 and a guide to this is in preparation.

BS EN 60825-1:2007 is listed in the **Official Journal of the European Communities** as a Harmonised Standard that provides a presumption of conformity with the Low Voltage Directive (LVD - 2006/95/EC) and the Radio Equipment and Telecommunications Terminal Equipment Directive (RTTED - 1999/5/EC). Any product containing a laser system should therefore comply with BS EN 60825-1 before applying the CE marking.

The User's Guide is now available as a separate document, [PD IEC TR 60825-14: 2004](#) BS EN 60825-1:2007 replaces BS EN 60825-1:1994, which has been withdrawn.

**Published:** November 2007 **No. of pages:** 104 **ISBN:** 978 0 580 53563 5

## **Comments on the ICRP Draft 4a Environmental Protection: The Concept and Use of Reference Animals and Plants**

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Comments submitted by AURPO UK. Our use of radioactive materials is relatively low level and all discharges to the environment are subject to control with humans having to be considered as they can be directly exposed or are at the head of a food chain.

We consider the draft to be well written and an excellent collation of the existing knowledge on the effects on non human species of ionising radiations.

1. We would support the principle that where discharges may result in the exposure of animals and plants but not humans then consideration must be given to them.
2. We would agree that establishing a set of reference animals and plants is a suitable way of assessing the potential impact of exposures to ionising radiation of non human species.
3. The detail in the document whilst very interesting and well written goes beyond the “concept and use” title and consideration should be given to publishing it in a separate report. The aim of this publication was to act as a high level guidance document not give the supporting information it does give.
4. Whilst we support the principle we feel more clear guidance should be given to the instances to which it would apply. Our worry would be that eventually this could be translated into a requirement for all users to carry out environmental assessments which would result in small users like ourselves being involved in large amounts of work for no good reason. It appears clear to us, from the data in the draft, that when one considers the doses and doserates required to produce any effects in the reference animals and plants any discharges where humans are exposed would, as has been assumed in the past, limit doses to non human species to an acceptable level.
5. The choice of animals and plants for reference although rational and at first sight quite reasonable was not always supported by the amount of data available on them. Other species would appear to have been more extensively worked on. It would seem reasonable to include this in the choice decision as much to reduce the amount of work that would have to be carried out on the species chosen and limit the expense and potential suffering.

**Dr Brian Heaton (Aberdeen Radiation Protection Services)**

## **NEWS FROM HPA – Radiation Protection Division**

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Since the last issue of the newsletter the following reports have been published:-

- **HPA-RPD-035**  
[Results of the 2005 Health Protection Agency Intercomparison of Passive Radon Detectors](#)
- **HPA-RPD-034**  
[Radiological Consequences Resulting from Accidents and Incidents Involving the Transport of Radioactive Materials in the UK - 2006 Review](#)

### **HPA Current consultations**

HPA has been tasked with updating its advice to Government on disposal of solid radioactive waste. It has reached the stage where it has produced a consultative document that is now open for public comment. See:-

[Consultation on HPA Advice on Radiological Protection Objectives for the Land-based Disposal of Solid Radioactive Waste](#)

Comments should be sent to the RPD waste management group by e-mail at [SolidWasteDisposal@hpa.org.uk](mailto:SolidWasteDisposal@hpa.org.uk) to arrive no later than **3 June 2008**.

It's too late to comment on the other consultation document that is on the HPA website but it may still be of interest to members. See:-

[Protection of Patients and Volunteers Undergoing MRI Procedures](#)

The 'At-a-Glance' modules on the HPA website provide basic information on a range of useful radiation protection topics and they are very well presented. With the need for more training on transport matters to conform with the requirements of CDG2007 I think you will find the transport presentation useful -

[http://www.hpa.org.uk/radiation/understand/at\\_a\\_glance/transport/transport.htm](http://www.hpa.org.uk/radiation/understand/at_a_glance/transport/transport.htm)

It was produced to reflect the IAEA regulations on transport and gives a good overview of the general requirements to ensure RAM is transported safely. If it was supplemented by some of the recent ADR requirements one could develop a useful training tool.

### **Emerging Health Threats Forum**

Please find below a link to the new website of the Emerging Health Threats Forum (formerly the Forum for Global Health Protection):

<http://www.eht-forum.org/index.html>

The site is supported by the HPA and all content is 'Open Access'. They sometimes have articles of interest to radiation protection professionals.

## NEWS FROM AFFILIATES

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### CROFT ASSOCIATES

Croft Associates Limited is a newly affiliated member who design and supply packaging for the storage and transport of radioactive materials. The company has recently moved onto the main Culham Science Centre site so please update your records with the new address:

Building F4,  
Culham Science Centre,  
Abingdon, Oxfordshire  
OX 14 3 DB

Tel 01865 407740 e:mail [sales@croftltd.com](mailto:sales@croftltd.com).

Croft is working with the University of Missouri Research Reactor (MURR) to provide a fleet of Type B(U) shipping containers. MURR is a major centre for radioisotope research and products for use in a wide range of therapeutic and diagnostic applications and in research. Croft has fifteen Type B packaging designs certified by UK and other Competent Authorities and also supplies Type A and IP containers for use by hospitals, Universities, nuclear organisations and transport companies. The product and service range can be seen at [www.croftltd.com](http://www.croftltd.com)

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\*To receive the SoundPod travel speakers you must fill out the attached shipping form. [Click here](#)

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## SNIPPETS

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### GTLDS

If you ever need to dispose of old GTLDS (gaseous tritium light devices) 'Surelite' is the company to deal with in the UK. Vincent Ang found them very helpful when he recently had some disposals to make. Bob Chapman is their MD – [bob@surelite.co.uk](mailto:bob@surelite.co.uk) . Bob also offered to help with the disposal of other tritium and C-14 wastes.

For all you need to know about GTLDS a good start can be found on Surelite's website at – [http://www.surelite.co.uk/faqs.htm#2\\_5](http://www.surelite.co.uk/faqs.htm#2_5)

### Getting Mini Monitors Serviced

From Hasnet-Rad it has been clear that people have been experiencing problems with Thermo/Mini Instruments. Members have now reported a couple of contacts at Beenham who have provided helpful assistance. The first is Ken Bosley (Service Engineer) –

Email - [ken.bosley@thermofisher.com](mailto:ken.bosley@thermofisher.com)  
Direct Telephone - +44 (0) 118 971 5043  
Direct Fax - +44 (0) 118 971 5038

He supplied one member with a quotation after determination of the faults. The current labour rate is £85.00 per hour and there is an investigation fee of £80.00 + P&P + VAT if the quotation is declined.

Richard Sylvester of Thermo has been in touch and he reported that our contact in the service department should be Janette Westbrook (*who I have found very helpful in the past*) -

[janette.westbrook@thermofisher.com](mailto:janette.westbrook@thermofisher.com)

Tel no 01189715012

### Transport Regulations

DfT have now clarified their position re the FX derogation and this can now be interpreted as follows:-

- For 10 or less excepted packages – no fire extinguisher needs to be carried.
- For 10 or less mixed type packages where the transport index (TI) is less than 3 – no fire extinguishers need to be carried.
- More than 10 excepted packages 1 x 2kg fire extinguisher needed.
- More than 10 mixed packages or where the combined TI >3 then usual ADR requirements apply 2 FXs with size determined by size of vehicle.

Regular consignment notes can be continued to be used with details of journeys annotated on the reverse of the document and would recommend that old 3 month time limit for a regular consignment note continue to operate.

There are still a number of minor issues to sort out and we hope to issue updated guidance by the summer.

## Dual Energy X ray Absorptiometry - Bone Mineral Densitometry

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Some members may be interested in the ‘Radiological Protection in Bone Mineral Densitometry (BMD) using DXA (DEXA) scanners’ and should look up the following IAEA webpages that provide useful information on this topic – some of which is reproduced below.

[http://rpop.iaea.org/RPoP/RPoP/Content/InformationFor/HealthProfessionals/6\\_OtherClinicalSpecialities/DEXA/index.htm](http://rpop.iaea.org/RPoP/RPoP/Content/InformationFor/HealthProfessionals/6_OtherClinicalSpecialities/DEXA/index.htm)

### Radiological Protection in Bone Mineral Densitometry (BMD) using DXA (DEXA) scanners

- [Patients Protection](#)
- [Radiation Protection DXA & Pregnancy](#)
- [Staff Radiation Protection DXA](#)

Dual-energy X-ray absorptiometry (DXA, or formerly DEXA) is a technique used to measure bone mineral density (BMD). The preferred regions for BMD measurement are lumbar spine, proximal femur and whole body. The technique relies on transmission measurements made at two photon energies to allow calcium, and thereby bone mineral, be assessed. There has been significant growth in the application of DXA over the last decade. Earlier reports found that the patient dose per examination is at the lower end of the diagnostic radiology range [[UNSECAR, 2000](#)]; with good practice it should be possible to maintain this position despite some increase in dose. With regard to nomenclature, the abbreviation “DXA” was proposed by the International Society for Clinical Densitometry (ISCD) in 2003, as an alternative to “DEXA”; this form is used here.....

**There is more on the radiological protection of patients on the IAEA site for those that are interested.**

**Be informed about the *safe use* of radiation in medicine**

<http://rpop.iaea.org/RPoP/RPoP/Content/index.htm>

## GOIÂNIA – Why we have HASS today

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Reproduced below are extracts from a report from IAEA on the Goiânia legacy. Lessons drawn from this accident in 1987 were a key driver in developing the more rigorous radiation safety and security regulations that we have today.

Goiânia was the worst accident involving a radioactive source that the world has ever seen. Cesium chloride from a dumped source that had ended up in a scrap yard spread undetected for over two weeks. Some 250 people were contaminated and four died in the first month. The event focused international attention on the issue of safety standards for radioactive sources.

"Before the 1987 accident the regulations were weak when it came to controlling radiation used in medicine and industry worldwide," says Eliana Amaral, IAEA Director of Radiation, Transport and Waste Safety. "There was no awareness that sources must be controlled from 'cradle to grave'; and to prevent the public accessing them. After the accident these concepts were fostered," Ms. Amaral says. [See the [video report](#) from the scrap yard on Rua 6, Goiânia, one of the sites affected]

Brazil's request that the IAEA draw 'lessons learned' from Goiânia paved the way for more open, transparent reporting of radiological accidents. "With all the developments which took place since the Goiânia accident - in terms of controlling the movement of radioactive sources, preparing emergency response plans and waste management - certainly the public and the environment are better protected now than 20 years ago," Didier Louvat, Head of IAEA Waste and Environmental Safety says.

Goiânia's legacy of a handful of cesium chloride is 3,000 cubic metres of contaminated waste. It is now buried in a near surface repository on the outskirts of the city, where it must be isolated for the next 300 years.

### **Some Problems Remain: 'Orphaned' Sources**

Despite improvements, worldwide radioactive sources are still lost and abandoned. In 2007, the IAEA knew of ten such incidents involving dangerous sources. Mr. Vilmos Friedrich, who heads an IAEA's unit that supports countries to control radioactive sources, says these 'orphaned' sources often enter the scrap metal exchange chain.

The IAEA is developing safety standards for dealing with orphaned sources in the metal recycling industry. It will provide guidelines for regulatory authorities, scrap dealers and metal recyclers on how to deal with radioactive sources found in the scrap. The IAEA is also driving a 'Cradle to Grave' approach to the way countries take responsibility to keep radioactive material safe and secure. Its activities span from assisting Member States to search and secure abandoned sources, to training border guard to detect them and boosting a country's regulatory capacity. "Safety must remain a strong concern and security is a rising concern, but both have to be covered very, very adequately," Didier Louvat says. -- *Kirstie Hansen, Division of Public Information*

## The 2007 Recommendations of ICRP

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Those of you that are not subscribers to Annals of the ICRP may wish to obtain a copy of the new Recommendations. These can be obtained as follows:-

### **Printed copies**

These can be ordered through the publishers at

<http://intl.elsevierhealth.com/catalogue/title.cfm?ISBN=9780702030482>

### **Downloading electronic copies**

These can be obtained, on a pay-per-file basis (using your credit card) unless you are a subscriber to the electronic version, at

<http://www.sciencedirect.com/science/journal/01466453>

### **User's Edition**

This lower-cost version includes the full text of the actual Recommendations (pp. 1 – 135) but not the scientific Annexes with background data (pp. 137 – 332); it can be ordered at

<http://intl.elsevierhealth.com/catalogue/title.cfm?ISBN=9780702030635>

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In exceptional cases, the Scientific Secretary of ICRP can arrange access for selected departments in those relatively prosperous developing countries that do not qualify for participation in the HINARI programme. However, in such cases ICRP much prefers to permit translations and distribution of translated reports. So far, translations have been agreed for versions in Chinese, French, German, Italian, Japanese, Russian, and Spanish. Negotiations concerning a possible Arabic version are under way. For information and permissions, please contact the Scientific Secretary at

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<http://www.icrp.org/freepubl.asp>

## IAEA PUBLICATIONS

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The IAEA is pleased to announce the publication of three new books in the area of human health:

### [Radiation Sterilization of Tissue Allografts:](#)

#### [Requirements for Validation and Routine Control: A Code of Practice](#)

Recommendations and guidelines for the safe use of ionizing radiation as a sterilization procedure for tissue allografts. The recommendations were produced by the IAEA with the help and approval of the main professional associations of tissue banks in Europe, Latin America and the USA and by experts in all aspects of radiosterilization and transplantation procedures. The code of practice covers the recommended qualifications of the tissue bank facilities, the tissue donors, the tissue processing and preservation procedures, and the maintenance of validation of the pre-sterilization and sterilization processes. Also covered are the quality, safety and clinical application of the tissue allografts, documentation and certification procedures, management and control issues, establishing a sterilization dose and worked examples.

[STI/PUB/1307, 55 pp.; 0 figures; 2007, ISBN 978-92-0-109007-2, English. 25.00 Euro.](#)

[Date of Issue: 17 January 2008.](#)

### [Setting Up a Radiotherapy Programme:](#)

#### [Clinical, Medical Physics, Radiation Protection and Safety Aspects](#)

This publication provides guidance for designing and implementing radiotherapy programmes, taking into account clinical, medical physics, radiation protection and safety aspects. It reflects current requirements for radiotherapy infrastructure in settings with limited resources. It will be of use to professionals involved in the development, implementation and management of radiotherapy programmes.

[STI/PUB/1296, 255 pp.; 10 figures; 2008, ISBN 92-0-101807-X, English. 55.00 Euro.](#)

[Date of Issue: 11 March 2008.](#)

### [Dosimetry in Diagnostic Radiology: An International Code of Practice](#)

( Technical Reports Series No. 457 )

This publication is intended to support those working in the field of diagnostic radiology dosimetry, both in standards laboratories involved in the calibration of dosimeters and those in clinical centres and hospitals where patient dosimetry and quality assurance measurements are of vital concern. This code of practice covers diverse dosimetric situations corresponding to the range of examinations found clinically, and includes guidance on dosimetry for general radiography, fluoroscopy, mammography, computed tomography and dental radiography. The material is presented in a practical way with guidance worksheets and examples of calculations. A set of appendices is also included with background and detailed discussion of important aspects of diagnostic radiology dosimetry.

[STI/DOC/010/457, 359 pp.; 37 figures; 2007, ISBN 92-0-115406-2, English. 75.00 Euro.](#)

[Date of Issue: 16 January 2008.](#)

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## OTHER PUBLICATIONS

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Dose Implications of Very Low-Level Radioactive Waste Disposal - SNIFFER

[http://www.sniffer.org.uk/exe/download.asp?sniffer\\_outputs/UKRSR09.pdf](http://www.sniffer.org.uk/exe/download.asp?sniffer_outputs/UKRSR09.pdf)

Radioactive Substances Act 1993 and Qualified Experts - SNIFFER

[http://www.sniffer.org.uk/exe/download.asp?sniffer\\_outputs/UKRSR10.pdf](http://www.sniffer.org.uk/exe/download.asp?sniffer_outputs/UKRSR10.pdf)

Health Protection Matters - Autumn 2007

<http://www.hpa.org.uk/publications/PublicationDisplay.asp?PublicationID=117>

Features -      Voxel phantoms in electromagnetic dosimetry

                  Exposure to ionising radiation in the UK

                  Radioactive contamination of urban areas

Advice on risks from tritium – Health Protection Agency

<http://www.hpa.org.uk/publications/PublicationDisplay.asp?PublicationID=0>

Radionuclide partitioning to sewage sludge (Part A) – Radionuclide discharges to sewer (Part B)

Summary SC020150/SS

Environment Agency

<http://publications.environment-agency.gov.uk/pdf/SCHO0907BNGC-e-e.pdf>

Radionuclide partitioning to sewage sludge - A laboratory investigation

Science Report – SC020150/SR1

Environment Agency

<http://publications.environment-agency.gov.uk/pdf/SCHO0907BNGA-e-e.pdf>

Radionuclide discharges to sewer – A field investigation

Science Report – SC020150/SR2

Environment Agency

<http://publications.environment-agency.gov.uk/pdf/SCHO0907BNGB-e-e.pdf>

Review of trends in the UK population dose

A L Jones, WB Oatway, J S Hughes and J R Simmonds

Journal of Radiological Protection, Vol. 27, No. 4, December 2007

Comparison of activation products and induced dose rates in different high-energy medical linear accelerators

Helmut W. Fischer, Ben Tabot and Bjorn Poppe

Health Physics, Vol. 94, No. 3, March 2008

Leukaemia incidence in Welsh children linked with low level radiation – making sense of some erroneous results published in the media

John A. Steward, Ceri White and Shelagh Reynolds

Journal of Radiological Protection, Vol. 28, No. 1, March 2008

[http://www.iop.org/EJ/article/0952-4746/28/1/001/jrp8\\_1\\_001.pdf](http://www.iop.org/EJ/article/0952-4746/28/1/001/jrp8_1_001.pdf)