



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

April 2012

AURPO NEWSLETTER

Editor T.J.Moseley

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EDITOR'S INTRODUCTION

Welcome to the late April newsletter! As I'm running a bit behind this year the summer issue will be in July.

Not so much to report on this time but there will be more for the next issue. So next time you can look forward to a review of the latest edition of Martin & Harbison's 'Introduction to Radiation Protection' and a review of the new interactive laser safety DVD from Southampton University. I'll also be able to report then on the radiation dose survey that I have been helping HPA with – thanks to all those who have contributed.

The Govt pressure to make regulators more responsive to the needs of stakeholders and the objective that in the first instance they should be there to help people comply (before resorting to the big stick) appears to be working. Our regulators now seem much keener to offer help and guidance and to be seen to do so. Of note are the EA regional meetings that are now getting off the ground (see page 5) and the ONR transport meetings (see page 8). ONR are also now producing new guidance to assist the user with compliance.

The HSE Safeguards Office have also listened to our concerns over the regulation of uranium and thorium usage and are arguing for our position in Europe. The record keeping and reporting requirements under Euratom Regulations 302/2005 although cumbersome are not too onerous for people only holding a limited quantity of derogated materials. The Safeguards Office are flexible and understanding and if you have good records (as required by the EPR exemption order) you should not have any great difficulty in complying if required. We are however still pressing for exemption for small users. Having attracted the attention of the authorities I managed to get my own Safeguards inspection by a Euratom Inspector earlier this month. I can report that everything went smoothly, everything was in order and my stock and records tallied. It took a morning of my time and it does help to occasionally have an external inspection to keep the users on their toes.

The scientific programme for this year's conference is outlined on page 3. There should be plenty to interest members and provide RPOs/RPAs with good update material for their portfolios. Christine is working hard at Preston to make another rewarding and enjoyable conference. For those that can stay a little longer there will be a trip to Springfields organised. A mailshot for this year's event should be going out shortly.

IRPA13 in Glasgow is now fast approaching (w/c 13th May) see page 6 for latest details.

IAEA publications have been very busy recently with a host of interesting topics covered (see page 17) including their version of the new basic safety standard.

That's it folks, deadline for next issue is Friday 29th June.

T.J.Moseley

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PRESIDENT'S REPORT

We are well into 2012 and once again I am looking forward to seeing as many members as possible at the AURPO Annual Conference later this year, in September.

The annual conference, which will take place in Preston at University of Central Lancashire 4th – 5th September 2012, is now beyond its planning stage and we await your participation. The Scientific Programme promises to provide some very interesting sessions and the social arrangements are now close to completion. You should all receive an invitation and registration form to enrol in the conference very soon. Christine Edwards and her team at UCLan have been working very hard to ensure that we all have an informative and enjoyable time at the conference.

The Scientific Programme this year will focus on "Training" and "When the Inspector Calls" with speakers including regulators, our members and other knowledgeable experts.

I can confirm that the 2013 AURPO Annual Conference will be held at Edinburgh University. My thanks go to Colin Farmery who has kindly offered to host the conference. We are now looking for offers to host the conference in 2014 and beyond. It seems early to be talking about 2014, but conference planning and booking of facilities is required at least 2 - 3 years in advance. If anyone feels that they have good facilities at their organisation and is prepared to offer to host our annual event, please let us know.

Good wishes to you all.

Sonia

Sonia Nuttall
23rd April 2012

Membership News

Welcome to the following new members to the Association who have joined since December:-

Mark Green	Edinburgh University
James Weston	Oxford University Hospitals

AURPO Scientific Meeting Univ of Central Lancashire, Preston

4th & 5th September 2012

Tuesday Afternoon 4th Sept - Training Update

Developing a good safety culture (Peter Cole, Liverpool)

BSc in Radiation Protection at University of Cumbria (tbc)

Online training using Moodle (Peter Jewell, Bath)

RWA – requirements, syllabus, accreditation (Angela Wright, SEPA)

Laser Safety training update (Simon Hall, NPL)

Wednesday 5th September - When the Inspector Calls!

AM

Keynote presentation on source security (tbc)

Preparing for a HSE Inspection (HSE speaker tbc)

Preparing for an EA inspection (Amber Bannon, EA)

Inspections carried out under CDG (David Rowe ONR)

PM

Update on ICRP dosimetry issues and the use of effective dose (John Harrison, HPA)

Eye dose limits and eye dosimetry (Liz Ainsbury, HPA)

Modern methods of dosimetry (tbc)

Surviving a Euratom Safeguards Inspection (HSE Safeguards Office speaker tbc)

HSE News

CONTACT HSE

Infoline is HSE's public enquiry centre. Telephone 0845 345 0055 or visit:

<http://www.hse.gov.uk/contact/index.htm?ebul=noise/aug09cr=9>

REPORT AN INCIDENT

Telephone 0845 300 99 23 or download the appropriate form from:

<https://www.hse.gov.uk/forms/incident/index.htm>

email it to: <http://www.hse.gov.uk/riddor/report.htm>

News releases can be obtained from <http://www.hse.gov.uk/news/index.htm>

HSE Information and press releases can be accessed on the Internet:

<http://www.hse.gov.uk/press/press.htm>

HSE's Research Reports are available free on the HSE website at:

<http://www.hse.gov.uk/research/rrhtm/>

HSE priced and free publications - direct at HSE Books, PO Box 1999, Sudbury, Suffolk, CO10 6FS, Tel (01787 881165) and other good booksellers. HSE Books has its own website:

www.hsebooks.co.uk

Details of all new free and on sale HSE publications and leaflets can be found via the following link or going to the website [Whats new on the Health and Safety Executive's website](#)

<http://news.hse.gov.uk/index.php>

For Statutory Instruments and non-HSE Government publications go to The Office of Public Sector Information (OPSI) website :-

<http://www.opsi.gov.uk/official-publications/finding-and-obtaining-official-publications.htm>

No radiation incidents or prosecutions to report on recently so I had a look at the '[OTHEA](#)' site. It is getting populated by a few more incidents but it looks as it is just the French and English who are currently sending reports in. Please check it out again and check if there are any incidents that you would like to share with the site – everything is reported anonymously. Peter Shaw and Sharon Ely of HPA are the UK contacts. Contact details and how to submit a report are available on the website.

EA, DEFRA & DECC MATTERS

Environment Agency have been rolling out regional meetings this Spring as they aim to become more customer focused and provide more help to the permit holder to enable them to comply without the EA having to resort to enforcement action. It was felt that the Thames meetings, that have been occurring for some time, would be a good platform to base these on. The meetings should update users on inspection schedules, priorities for the coming year and experiences of using the new exemption order.

I attended a north east regional meeting in Leeds in March and the following items were of note to me.

Inspection and audit frequency in future should be risk based:-

Cat 5 sealed sources with waste accumulation – every 2 years

HASS and other sealed sources – 1-2 years depending on risk assessment.

Type G open sources (us) - every 2 years.

New permit (other than security permit) inspection within 1 year.

HASS/Security new permit – prior to issue.

EA priorities are currently security and training for incidents/emergency preparedness.

Partial or full surrender of permits after 31/3/12 is chargeable.

Guidance on U and Th disposals still to be updated as current guidance is vague. Previous EA statements have said that disposals under the Exemption Order need not be considered as hazardous wastes.

EA does not and has no intention of registering users who use exemptions.

Regional EA meetings to be held every 6 months to update users. RSR newsletter may be produced to help keep users up to date with changes. People need to be notified of changes in guidance and where to find useful information on the EA website (*which even EA inspectors note is notoriously difficult to navigate*).

Reporting of incidents – there are 24/365 response arrangements. The incident communication centre is in Sheffield with freephone tel 0800 807060 for all incidents related to the environment. Typically there are 30-40 calls/year related to radioactive substances. There are still old school sources turning up, radioactive lightning conductors and items in scrap metal.

Don't forget the IRAT (initial radiological assessment tool) software that is available from your inspector when carrying out an environmental impact assessment as part of a new application for a permit.

Triennial Review of Committee on Radioactive Waste Management (CoRWM)

DECC is currently reviewing the role of CoRWM and would welcome stakeholder opinions on a variety of issues, see -

http://www.decc.gov.uk/en/content/cms/consultations/corwm_review/corwm_review.aspx

IRPA NEWS

IRPA13 GLASGOW 13-18th May 2012 www.irpa13glasgow.com

IRPA13 Live Webcasts

IRPA is pleased to announce that, for the first time at an IRPA Congress, three important sessions will be webcast live from the IRPA13 Glasgow Congress, enabling audiences around the world to join the presentations and discussions.

The three sessions are:

(1) Key Issue Discussion Session on Nuclear Issues, to be held on Thursday 17 May at 14:00. This session, sponsored by the US Nuclear Energy Institute, will present an overview of the key radiation protection issues currently facing the nuclear industry, followed by questions and discussion with the prestigious speakers. The session will last for one hour 30 minutes.

(2) Plenary Session and Key Issues Discussion on the System of Protection, to be held shortly following (1) above at 16:00 on the Thursday, lasting for 2 hours 15 minutes. This will feature key international organisations involved in the system of protection (ICRP, UNSCEAR, IAEA and NEA), together with input from representatives of the 'user' communities based on regional and sectoral (eg medical, nuclear, NORM) considerations.

(3) Plenary Session on the Lessons and Challenges following the Fukushima Accident, on Friday 18th May at 09:00. This will last for 2 hours 15 minutes. Senior international figures will identify and discuss the key challenges for Japan, other countries, utilities and ICRP, together with an NGO perspective.

Registration to participate in any of these webcasts is open to all interested parties, either as individuals or groups. To secure involvement you must register with the IRPA13 organisers at webcast@irpa13glasgow.com.

You will be given the web address and registration code to allow participation. There is no charge for participation, but registration will be on a 'first come, first served' basis.

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Tel: 01803 866743, Fax: 08442 724892
Web: www.srp-uk.org

NB Check out the website for latest program news.

Current ICRP Consultations

The draft ICRP report "Radiological Protection against Radon Exposure" is now available for public consultation. ICRP welcomes comments from individuals and groups. The draft document can be downloaded, and comments submitted, through the ICRP web site.

Due to the level of interest in this document it will be out for consultation for an extended period. Comments must be submitted through the ICRP web site no later than June 8, 2012.

See - <http://www.icrp.org/page.asp?id=148>

Chernobyl Restrictions Lifted

Restrictions on hundreds of Welsh and Cumbrian sheep farms dating back to the Chernobyl nuclear disaster have finally been lifted - 26 years on.

The Food Standards Agency (FSA) said the controls were not "proportionate" to the "very low risk" and removing them would not compromise the consumer. The disaster in 1986 affected 10,000 UK farms, including 334 in north Wales. The movement of sheep was heavily restricted after the nuclear disaster. Before farmers could sell livestock, the animals' radiation levels had to be monitored. If they were above a certain level, the sheep were moved to another area and the levels had to subside before they could be sold and consumed. The lifting of the restrictions comes after a 12-week consultation with key stakeholders including consumers, affected farmers, farming unions and trade bodies.

The FSA board agreed to lift the controls from 1 June, 2012.

Out of the 9,800 UK holdings, and more than 4m sheep originally placed under restriction, there are only 327 farms in north Wales and eight farms in Cumbria still under restrictions.

For further information on this story see BBC website at - <http://www.bbc.co.uk/news/uk-wales-17472698>

Transport Matters

Responsibilities for transport of radioactive materials have been moved from DfT to the Office for Nuclear Regulation (ONR). ONR is a branch of HSE and so some of the former DfT staff are now enjoying the delights of Bootle. ONR- transport held their first stakeholder meeting in Bootle on 19th March.

A few items of interest are as follows:-

- Emergency contact number – 0207 556 3475
- EU Carrier registration scheme. Some EU countries pressing for this but UK is opposed. Whatever happens carriers of excepted packages will be exempt.
- Transport section will use HSE enforcement policy in future – warning, improvement notice, prohibition.
- Cost recovery charging likely in future – proposals being developed and will be consulted on next year.
- Work programme for 2012-13 concentrating on package assessments and compliance inspections.
- Guidance being produced to assist with compliance –see first two examples of this below.

ONR Guidance on the security requirements for the transport of non-high-consequence class 7 radioactive materials (ADR Chapter 1.10)

Introduction

This document offers guidance to industry on meeting the security requirements afforded by the Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009, (as amended).

This guidance is aimed at everyone who is involved in the transport of non high consequence Class 7 Radioactive Materials. Industry shall be aware of and comply with the security requirements to prevent the theft or misuse of radioactive material whilst in transit or temporary storage.

Background

Regulations are in place for the security of dangerous goods transported by road and rail. These regulations require organisations to put measures in place that would reduce the risk of interference with dangerous goods by criminals and terrorists. Inspectors from the Office for Nuclear Regulation carry out security inspections of sites handling Class 7 Radioactive Materials in addition to their role monitoring the safety of these materials.

Requirements

Your company roles and responsibilities (ADR 1.10.1.1)

A person with a specific role in the carriage of radioactive material needs to be identified and their security responsibilities determined.¹ It would be appropriate to record these details within job descriptions to ensure that individuals understand their responsibilities for dangerous goods security.

¹ all persons engaged in the carriage of DG shall consider the security requirements set out in Chapter 1.10 of ADR which are commensurate with their responsibilities

Examples which could be included in a job description:

- Ensuring that only authorised persons are in particular areas,
- reporting interference with vehicles carrying Class 7 material.
- Security training,
- Site security

Recruitment and personnel security (ADR 1.10.1.1)

When recruiting staff or contractors working for your company, are they subject to any pre-employment checks? The following should be considered:

At least one of

- (i) Previous employment history
- (ii) References

Plus one of

- (iii) Driving licence
- (iv) Passport
- (v) Birth certificate

Plus

- (vi) Criminal record check
- (vii) Work permit – if applicable

Procedures should be in place for checks to be carried out on contractors working for your company.

Personnel records should be kept and available for inspection. If not on site it would be helpful if the Human Resources (HR) Department details could be supplied.

Dangerous goods shall only be offered for carriage to carriers that have been appropriately identified (ADR 1.10.1.2)

Dangerous goods shall only be transferred to appropriately identified carriers whose drivers can produce photographic identification. It is recommended that this is applied to drivers who are delivering to your company.

Where possible, deliveries should not be scheduled for the same time every day.

Drivers should be instructed in writing to report to the organisation and to the police any security incidents that happen whilst class 7 goods are in transit.

Examples include:

- Someone watching the premises at the time when vehicles depart.
- The vehicle being followed.
- The vehicle being stopped by someone posing as the police.

Storage in transit of class 7 dangerous goods (ADR 1.10.1.3)

Areas within terminals, sites, vehicle depots, berthing areas and marshalling yards (for rail) used for the storage in transit² of dangerous goods shall be properly secured, well lit and, where possible and appropriate, not accessible to the general public.

For overnight storage in the vehicle, the company should refer to the requirements of ADR 2009 Chapter 8.4, and Chapter 8.5 Special Provision S21.

A security risk assessment of its operations shall be carried out by the company and recorded.

It would also be appropriate for staff working on site to carry corporate photo identification.

Each crew member of a vehicle carrying dangerous goods shall carry with them means of identification, which includes their photograph, during carriage (ADR 1.10.1.4)

The drivers should be instructed in writing to carry photographic identification. A driver's photo card driving licence or equivalent industry identification card or passport would be sufficient to meet this requirement.

Security Awareness Training (ADR 1.10.2.1)

Persons involved in the transport of dangerous goods are required to undertake security awareness training "appropriate to their responsibilities and duties" (ADR 1.3.1 refers).

Security awareness training shall address the nature of security risks, recognising security risks, methods to address and reduce such risks and actions to be taken in the event of a security breach.

It shall include awareness of a security plan (where appropriate) commensurate with the responsibilities and duties of individuals.

Details of security awareness security training undertaken must be kept by both the employer and the employee and shall be verified upon commencing employment.

Refresher training

The training shall be periodically supplemented with refresher training to take account of changes in the regulations. This should also reflect changes subsequently made to the security regime of the organisation as appropriate.

It is not a mandatory requirement to stipulate when training should be refreshed, but we would recommend that this be done on a 1 -2 year basis.

Refresher training should be recorded on the training record of the employee.

Further guidance relating to these and other measures are included in the Guidance for the Security of Dangerous Goods by Road.

This remains on the DfT website as it refers to all dangerous goods:

<http://www.dft.gov.uk/topics/freight/dangerous-goods/security/>

² ADR 1.2.1 **within the definition of 'Carriage'**, determines storage in transit to be 'The intermediate temporary storage of dangerous goods in order to change the mode or means of transport (transshipment), provided that transport documents showing the place of dispatch and the place of reception are presented on request and provided that packages and tanks are not opened during intermediate storage, except to be checked by the competent authorities'

ONR Transport Guidance - Carriage of Radioactive Material by Small Users

Introduction

In recent years, we have carried out approximately 250 inspections of the transport operations of ‘small users’ of radioactive material, such as hospital radiopharmacies, industrial radiographers and couriers, against the requirements of the Carriage of Dangerous Goods Regulations and the European ADR Agreement⁽¹⁾.

Based on the findings from our inspections, we have produced this guidance document, to help small users to comply with the requirements.

Included alongside each section are references to the applicable paragraphs of the Regulations⁽¹⁾.

Quality Management System See ADR 1.7.3.

You must have an appropriate quality management system. There are no strict rules on its format: it may be structured as, and comply with, an internationally recognised standard such as ISO9001, or it may be far simpler, based on in-house documents and procedures. The system that you adopt must be appropriate for what you do.

Awareness of Regulations See CDG 5 and ADR 1.7.3.

We expect you to be aware of the relevant regulations and their content, but we don’t expect you to be able to quote from them. You don’t need to keep copies but, if you do, there should be a means of ensuring that they are current and controlled. Many small users rely on an external body such as a Radiation Protection Advisor (RPA), Dangerous Goods Safety Advisor (DGSA) or a professional association, to keep them informed about regulations.

Radiation Protection See ADR 1.7.2 and 1.7.6.

You should be able to show that you have carried out a risk assessment and that you have appropriate measures in place. These measures may include barriers, shielding, the wearing of TLDs (film badges), the appointment of Radiation Protection Supervisors (RPS) and warning notices. We expect to see evidence that the system is under control and is periodically reviewed and revised as necessary.

DGSA See ADR 1.8.3.

You will most likely need to appoint a DGSA, unless you only transport Excepted Packages or you transport less than about twice per month. Even if you do not think that you need a DGSA, there are many regulatory duties that must be carried out, and it may be better to discharge these duties via a DGSA who has a comprehensive understanding of the regulations, rather than place the work on a member of your own staff.

Emergency Arrangements See CDG 24 and CDG Schedule 2 part 4.

You must have emergency plans in place before you begin transport. The plans must be periodically reviewed and revised if necessary, and must be tested at suitable intervals. Testing may include, for example, involving staff in a simulation of an emergency and a demonstration of how to deal with it, or a video or powerpoint presentation and an assessment of staff capability afterwards.

Driver / Vehicle Crew Requirements See CDG Schedule 2 parts 4 and 5, ADR 5.4.3, 8.1.2 and 7.5.11 CV33.

The driver / crew must have emergency instructions and know how to use them. They must carry photographic identification, and have sufficient knowledge in the handling and transferring of radioactive material, including segregating it from other goods and from the public and safe overnight storage if appropriate.

Couriers must be aware of the amount of material they are carrying, and keep track of the total amount if they are collecting further packages along the route.

Training See ADR 1.3, 1.7.2.5 and 8.2.

You must ensure that all staff have received adequate training to do their job. This includes initial / general training, training specific to the job, safety training and, very importantly, radiation protection training.

Refresher training must be provided at suitable intervals to bring employees up-to-date with requirements.

Drivers may need an ADR driving certificate, depending on the amount of material they carry. However, for Excepted Packages, no specific training is required, and for up to ten Type A packages, with a total transport index of no more than three, in-house radiation awareness training together with a company certificate will be acceptable.

We expect to see evidence of training, such as training plans, test results, timetables, lists of attendees (with signatures alongside) and training certificates.

Consignment Documentation See ADR 5.4 and 5.4.1.2.5.

On each journey, as well as their photo I/D and emergency arrangements, the crew must take this transport document. It should be completed with all necessary information for that consignment. Depending on the route, you may need to include a tunnel code, as the carriage of radioactive material is not permitted through certain tunnels. The declaration, which was a requirement of previous regulations, is only required for road transport in Great Britain if the carriage is under a special agreement. Consignment documentation is required for all journeys.

Package and Material Integrity See ADR 4.1.9, 5.1.5.2 and 6.4.

You must be able to show that the packages and materials (e.g. Type A packages and Special Form material) meet the requirements of the regulations. Typically, this means holding copies of the manufacturer's certificates or evidence that you have tested the packages yourself against all of the requirements.

Package Inspection and Maintenance See ADR 1.7.3(b).

Depending on how often you use the package and the severity of the conditions in which it is used, you should have an appropriate inspection and maintenance programme. This may include a daily / weekly / monthly check sheet and periodic return to an established service centre. Repairs must be fully documented, to show that the package still meets the requirements afterwards.

Supplier Services See ADR 1.7.3.

You must ensure that you monitor the performance of any suppliers whose service could affect your transport operation, and take remedial action if shortcomings are found. Suppliers in the broadest sense may include your RPA and DGSA, couriers, vehicle and package maintenance companies, calibration service, training organisations and packaging suppliers.

Marking and Labelling of Packages and Overpacks See ADR 5.1.2, 5.2.1 and 5.2.2.

Marking and labelling are separate requirements: marking means the permanent description of the package and overpack, whereas the (diamond-shaped) labelling shows the maximum radioactive contents for that specific consignment.

You must make sure that all text is clearly legible, it will withstand its working environment and that no other markings or labels are visible, which could mislead the emergency services during an incident.

Vehicles

Placards: Apart from when only carrying Excepted Packages, vehicles must show placards on the sides and rear. These can be reduced in size if there isn't sufficient space for the full-size placards. See ADR 5.3.

Orange Plates: Apart from when only carrying Excepted Packages, vehicles must show orange plates on the front and rear (see ADR 5.3.2), or carry a 'fireproof notice' in the cab in accordance with GB Road Derogation 9.

Fire Extinguishers: There has been a lot of confusion over fire extinguishers. Within Great Britain, you do not need extinguishers if you are only carrying Excepted Packages (see current CDG Derogation 3 and Authorisation 216). For all other consignments, you need at least two extinguishers: for a small van or car of up to 3.5 tonnes, you need a total of 4kg, which usually means 2 x 2kg extinguishers fitted where they can easily be reached in an emergency. For larger vehicles, you will need a total of 8kg or 12 kg. See ADR 8.1.4.

Miscellaneous Equipment: There is a list of equipment in the regulations, for the vehicle and for each member of the crew. See ADR 8.1.5.

Stowage Facilities: There must be a means of adequately securing the packages in the vehicle, as far from the crew as possible. See ADR 7.5.7 and 7.5.11 CV33.

Contamination: you may need to check the vehicle periodically, to ensure that no radioactive material has leaked from a package. See ADR 7.5.7 and 7.5.11 CV33.

Security See ADR 1.10.

There has been increasing concern over terrorism in recent years, and it is most important that radioactive material does not get into the wrong hands. You must ensure that staff are trustworthy and that they have been trained in recognising potential security incidents and dealing with them.

Final Note:

Remember: it is important that you retain evidence of how you are complying with the regulations, and that you can make that evidence available to us during inspections.

(1) *The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009, as amended (CDG), and The European Agreement Concerning the International Carriage of Dangerous Goods by Road 2011 (ADR).*

Contact details

Email: class7@hse.gsi.gov.uk

Please continue to address applications for competent authority approval of radioactive material packages and shipments to George Sallit, copied to Nick Barton or Danny Vince

For more regular updates from RMT, please sign up for ONR's monthly [e-bulletin](#)

NEWS FROM HPA- Radiation Protection Division

Recent publications that are of relevance are listed below.

[HPA-CRCE-030 - An Investigation of Monitoring by Nose Blow Sampling](#)

The potential for developing nose blow sampling into a robust screening method for exposure to radionuclides

Added/updated: 12 January 2012

[Environmental Radon Newsletter](#)

Added/updated: 3 April 2012

[HPA helps solve radon problems in Orkney homes](#) Release date: **10 January 2012**

Hundreds of householders across Orkney are being advised to act to protect their health, after HPA tests detected high levels of radioactive gas radon.

Added/updated: 16 January 2012

[Cornish radon hotspot targeted](#) Release date: **10 January 2012**

Thousands of households in a part of Cornwall with historic radon problems are being offered a free test for levels of the radioactive gas radon.

Added/updated: 10 January 2012

Comprehensive review on mobile phone technologies finds no solid evidence of health effects (26 April 2012 Press Release from HPA)

A new report by the Health Protection Agency's independent Advisory Group on Non-ionising Radiation (AGNIR) has concluded that there is still no convincing evidence that mobile phone technologies cause adverse effects on human health.

The report, which updates AGNIR's previous review in 2003, considers the scientific evidence on exposure to radiofrequency (RF) electromagnetic fields, which are produced by mobile phone technologies and other wireless devices, such as Wi-Fi, as well as television and radio transmitters.

The report finds that although a substantial amount of research has been conducted, there is no convincing evidence that RF field exposure below internationally agreed guideline levels (which are applied in the UK) causes health effects in adults or children.

Key conclusions are:

- The evidence suggests that RF field exposure below guideline levels does not cause symptoms in humans and that the presence of RF fields cannot be detected by people, including those who report being sensitive to RF fields.
- A large number of studies have now been published on cancer risks in relation to mobile phone use. Overall, the results of studies have not demonstrated that the use of mobile phones causes brain tumours or any other type of cancer.
- As mobile phone technology has only been in widespread public use relatively recently, there is little information on risks beyond 15 years from first exposure. It is therefore important to continue to monitor the evidence, including that from national brain tumour trends. These have so far given no indication of any risk.

- Studies of other RF field exposures, such as those at work and from RF transmitters, have been more limited but have not given evidence that cancer is caused by these exposures.
- Research on other potential long-term effects of RF field exposures has been very limited, but the results provide no substantial evidence of adverse health effects; in particular for cardiovascular morbidity and reproductive function.

Professor Anthony Swerdlow, Chairman of the Group, concluded: “There are still limitations to the published research that preclude a definitive judgment, but the evidence overall has not demonstrated any adverse effects on human health from exposure to radiofrequency fields below internationally accepted guideline levels.”

In response, the Health Protection Agency welcomed the report’s findings.

Dr John Cooper, director of the HPA's Centre for Radiation, Chemical and Environmental Hazards, said: “There has been considerable new scientific evidence published since the last AGNIR report in 2003, and this report further consolidates the evidence base on which the HPA issues its advice.

“The HPA’s position on mobile phone technologies is in line with the AGNIR’s findings. There is still no convincing scientific evidence that RF field exposures from mobile phones and other radio technologies affect human health at exposure levels below internationally agreed guidelines.

“However, as this is a relatively new technology, the HPA will continue to advise a precautionary approach and keep the science under close review. The HPA recommends that excessive use of mobile phones by children should be discouraged and mobile phone Specific Energy Absorption Rates (SAR) values should be clearly marked in the phone sales literature.”

- The report: [Health Effects from Radio Frequency Electromagnetic Fields is available online](#)
- AGNIR reviewed laboratory studies of cells and animals as well as experiments in humans and observational (epidemiological) studies of humans.
- The [Health Protection Agency’s full response can be viewed online](#)



Twenty-Second Updated Experiment in Series Now Available on ORTEC Educational Web Page for Universities and Educational Institutions

March 2012

ORTEC has created an educational web page specifically for universities and teaching laboratories. Bookmark this page for quick access to application notes and teaching experiments for your nuclear science students.

<http://www.ortec-online.com/Solutions/educational.aspx>

Laboratory Manual Experiments Being Updated

Application Note 34 - "Experiments in Nuclear Science" has been a staple for university labs. ORTEC is in the process of updating the individual experiments to bring them up to date with today's instrumentation. These experiments are FREE to all universities.

Each month we will e-mail you another updated experiment.

Click Below for Your Free Experiment for this Month

[Measurements in Radiation Biology](#)

Other experiments will be posted at the web link above as soon as they become available.

For more details, contact us at ortec.uksales@ametec.co.uk

We would like to receive your feedback as to whether these experiments are helpful to you. In addition we would be very happy to receive suggestions or even scripts for new experiments you might wish to share with others. Please e-mail Caroline.Tipton@ametec.com to comment

BOOKS AND PUBLICATIONS

Nuclear Data for the Production of Therapeutic Radionuclides

Technical Reports Series No. 473 This publication reports the results of an IAEA coordinated research project on nuclear data for the production of therapeutic radionuclides. The aim was to provide standardized data for the production of radionuclides for therapeutic purposes, embracing current and possible future needs. Experimental data compilations, theoretical calculations and evaluations were carried out for each of the reactions. The recommendations for production of both established and emerging radionuclides are discussed, and the analysis carried out to produce the recommended data is also presented. The improved quality of the nuclear data will make reactor and accelerator production of therapeutic radionuclides much more efficient, and should also enhance their quality through improved purity of the product. The current publication comprises new evaluated data for both reactor and accelerator production of therapeutic radionuclides based on more than 50 different production reactions.

STI/DOC/010/473, 382 pp.; 0 figures; 2012; ISBN 978-92-0-115010-3; English, 75.00 Euro

Electronic version can be found at:

<http://www-pub.iaea.org/books/IAEABooks/8522/Nuclear-Data-for-the-Production-of-Therapeutic-Radionuclides>

Control of Orphan Sources and Other Radioactive Material in the Metal Recycling and Production Industries

Specific Safety Guide *IAEA Safety Standards Series No. SSG-17*

Accidents involving orphan sources and other radioactive material in the metal recycling and production industries have resulted in serious radiological accidents as well as in harmful environmental, social and economic impacts. This Safety Guide provides recommendations, the implementation of which should prevent such accidents and provide confidence that scrap metal and recycled products are safe.

STI/PUB/1509; 82 pp.; 3 figures; 2012, ISBN 978-92-0-115510-8, English, 31.00 Euro

Electronic version can be found:

<http://www-pub.iaea.org/books/IAEABooks/8642/Control-of-Orphan-Sources-and-Other-Radioactive-Material-in-the-Metal-Recycling-and-Production-Industries>

Monitoring for Compliance with Exemption and Clearance Levels

Safety Reports Series No. 67 Radioactive material is present in the environment and is also generated during the operation and subsequent decommissioning of facilities that have used or produced radioactive material. Particularly during decommissioning, a large amount of material may be generated that is below the activity limits requiring regulatory control. This Safety Report focuses on the development and practical implementation of strategies for demonstrating compliance with the established exemption and clearance levels. It provides valuable information for operators, regulatory bodies and other organizations that are involved in the monitoring of material for its release from regulatory control.

STI/PUB/1511; 186 pp.; 17 figures; 2012, ISBN 978-92-0-115810-9 , English, 45.00 Euro

Electronic version can be found:

<http://www-pub.iaea.org/books/IAEABooks/8645/Monitoring-for-Compliance-with-Exemption-and-Clearance-Levels>

Safeguards Techniques and Equipment: 2011 Edition

IAEA/NVS/1/2011 IAEA International Nuclear Verification Series No. 1 (Rev.2)

This publication is intended to give a full and balanced description of the safeguards techniques and equipment used for nuclear material accountancy, containment and surveillance measures, environmental sampling and data security. Specific features are included in installed equipment systems in order to ensure authenticity and confidentiality of information. A completely new section on new and novel technologies has been added to describe the most recent and promising future safeguards tools to detect declared and undeclared nuclear material and activities. As new verification measures continue to be developed the material in this book will be periodically reviewed and updated versions issued.

146 pp; 68 figures; 2012, ISBN 978-92-0-118910-3 , English, 25.00 Euro

Electronic version can be found:

<http://www-pub.iaea.org/books/IAEABooks/8695/Safeguards-Techniques-and-Equipment-2011-Edition>

Standards, Applications and Quality Assurance in Medical Radiation Dosimetry (IDOS). Proceedings of an International Symposium, Vienna, 9-12 November 2010 (2 Volumes)

Proceedings Series This publication presents the proceedings of an international symposium on standards, applications and quality assurance in medical radiation dosimetry. It includes a selection of peer-reviewed papers that were presented at the symposium. The symposium provided a forum for physicists and scientists of medical institutions, research centres and standards laboratories to discuss advances in radiation dosimetry during the past decade and to exchange scientific knowledge. The topical sessions included all specialities in radiation medicine (radiation oncology, nuclear medicine and diagnostic radiology) and radiation protection dosimetry with a specific focus on those areas where the standardization of dosimetry has improved in recent years (brachytherapy, diagnostic radiology and nuclear medicine). One session was exclusively devoted to the challenging issues of dosimetry in small and non-standard radiotherapy beams. The publication summarizes the present status and outlines future trends in medical radiation dosimetry, and identifies possible areas for improvement..

STI/PUB/1514; 2011, ISBN 978-92-0-116210-6, English, 120.00 Euro

Electronic version can be found:

<http://www-pub.iaea.org/books/IAEABooks/8700/Standards-Applications-and-Quality-Assurance-in-Medical-Radiation-Dosimetry-IDOS-Proceedings-of-an-International-Symposium-Vienna-9-12-November-2010-2-Volumes>

Status of Computed Tomography Dosimetry for Wide Cone Beam Scanners

IAEA Human Health Reports No. 5 This publication supports an interim solution to the dosimetric problems caused by modern computed tomography (CT) equipment, particular with respect to the wide X ray beam angles increasing seen in clinical practice. It reviews the development of current CT dose formalisms up to the current International Electrotechnical Commission (IEC) methodologies and presents practical measurement guidance in the implementation of new dosimetric methods needed with wide beam CT. Additional items of discussions are current approaches of the American Association of Physicists in Medicine in the USA to CT dosimetry as well as calibration aspects of CT dosimetric instrumentation. A summary describes the present status of CT dosimetry and provides recommendations for future action.

STI/PUB/1528; 39 pp.; 27 figures; 2011, ISBN 978-92-0-120610-7, English. 27.00 Euro

Electronic version can be found:

<http://www-pub.iaea.org/books/IAEABooks/8758/Status-of-Computed-Tomography-Dosimetry-for-Wide-Cone-Beam-Scanners>

Radiation Protection and NORM Residue Management in the Production of Rare Earths from Thorium containing Minerals

Safety Reports Series No. 68 This Safety Report is a compilation of detailed information on the processes and materials involved in the production of rare earths from thorium-containing minerals and on the radiological considerations that need to be taken into account by the regulatory body when determining the nature and extent of radiation protection measures. It has been developed as part of the IAEA's programme on the application of its safety standards in the field of radiation, transport and waste safety.

STI/PUB/1512; 259 pp.; 2011, ISBN 978-92-0-115710-2, English. 45.00 Euro

Electronic version can be found:

<http://www-pub.iaea.org/books/IAEABooks/8650/Radiation-Protection-and-NORM-Residue-Management-in-the-Production-of-Rare-Earths-from-Thorium-containing-Minerals>

Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards - Interim Edition

General Safety Requirements Part 3 (Interim) This publication is the new edition of the International Basic Safety Standards. Since the publication of the previous edition in 1996, the contents have been extensively revised and updated. The publication details the requirements for the protection of people and the environment from harmful effects of ionizing radiation and for the safety of radiation sources. All circumstances of radiation exposure are considered.

The companion CD includes translations into Arabic, Chinese, French, Russian and Spanish.

STI/PUB/1531; 138 pp.; 0 figures; 2011, ISBN 978-92-0-120910-8, English. 65.00 Euro

Electronic version can be found:

<http://www-pub.iaea.org/books/IAEABooks/8736/BSS>

Geological Disposal Facilities for Radioactive Waste

IAEA Safety Standards Series No. SSG-14 This Safety Guide provides guidance on prevailing good practices for meeting, and demonstrating compliance with, the Safety Requirements on Disposal of Radioactive Waste in a systematic and comprehensive manner. It covers aspects related to siting, design, construction, operation and closure, including the safety case, its supporting safety assessments and the regulatory process. The publication addresses both operational and long term safety of geological disposal facilities for wastes that pose a hazard for at least several thousand years.

STI/PUB/1483; 104 pp.; 2 figures; 2011, ISBN 978-92-0-111510-2, English. 32.00 Euro

Electronic version can be found:

<http://www-pub.iaea.org/books/IAEABooks/8535/Geological-Disposal-Facilities-for-Radioactive-Waste>

National Strategy for Regaining Control over Orphan Sources and Improving Control over Vulnerable Sources

IAEA Safety Standards Series No. SSG-19 This Safety Guide is intended to provide recommendations on the establishment of a national strategy for regaining control over orphan radioactive sources and improving control over vulnerable radioactive sources. It provides guidance on how to assess the national situation, and develop and implement a national strategy to achieve these goals.

STI/PUB/1510; 100 pp.; 0 figures; 2011, ISBN 978-92-0-115610-5, English. 35.00 Euro

Electronic version can be found:

<http://www-pub.iaea.org/books/IAEABooks/8643/National-Strategy-for-Regaining-Control-over-Orphan-Sources-and-Improving-Control-over-Vulnerable-Sources>

Cyclotron Produced Radionuclides: Guidance on Facility Design and Production of [18F]Fluorodeoxyglucose (FDG)

IAEA Radioisotopes and Radiopharmaceuticals Series No. 3 This publication provides practical information for planning and operating a fluorodeoxyglucose (FDG) production facility, including design and implementation of the laboratories, facility layout, equipment, personnel, and quality assessment of FDG. Information useful for assessing the resource requirements, planning and aspects necessary for compliance with the applicable national regulatory requirements for manufacturing of radio-pharmaceuticals is also included.

STI/PUB/1515; 153 pp.; 11 figures; 2012; ISBN 978-92-0-117310-2; English; 55.00 Euro

Electronic version can be found:

<http://www-pub.iaea.org/books/IAEABooks/8529/Cyclotron-Produced-Radionuclides-Guidance-on-Facility-Design-and-Production-of-18F-Fluorodeoxyglucose-FDG>

Other Publications

Regulators' Guidance

Lamps containing radioactive substances

<http://publications.environment-agency.gov.uk/dispay.php?name=GEHO1111BUKG-E-E>

Radioactivity in Food and the Environment 2010

<http://publications.environment-agency.gov.uk/dispay.php?name=GEHO1011BUJQ-E-E>

Dalgety Bay Headland Investigation - PO 088 0311

http://sepa.org.uk/radioactive_substances/publications/idoc.ashx?docid=e42cd2bb-809c-4000-ae63-742528277305&version=-1



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