

Nuclear industry family study

Some staff may have seen media coverage about the publication in *The Lancet* of an independent study examining the health of the offspring of employees of UKAEA, BNFL and AWE. The study, funded by the Department of Health, and the Health and Safety Executive, was carried out by analysing the responses from over 46,000 questionnaires sent to employees, including current and past workers of UKAEA, about their children's health. Many staff responded at the time and overall, the response rate was about 80%.

The first part of the study dealt with cancer in children born to parents who work in the nuclear industry and the results, which were reassuring, were published last year in the *British Medical Journal*. The second results paper examines birth defects, miscarriages and stillbirths in the babies of nuclear industry workers and was published in *The Lancet* on 13 October 2000.

Respondents to the questionnaires about health of offspring were predominantly male, due to the make up of the industry's workforce, and they reported 23,676 pregnancies in their partners. Female

employees reported 3,585 pregnancies.

The study finds no increased risk of birth defects, miscarriages or stillbirths in the babies of male radiation workers. Similarly, in mothers there was no association between the radiation exposure of a mother and a child having a birth defect. The risk of early miscarriage or stillbirth was slightly higher if the mother had been monitored for radiation before conception, but this result is based on such small numbers that no clear link can be established.

The authors of the report

from the London School of Hygiene and Tropical Medicine, said, "Our overall findings are reassuring. The main message from this work is that men exposed to radiation at work in the UK nuclear industry do not father pregnancies with increased levels of adverse outcome. Although the statistics showed a slightly higher risk among monitored mothers, with numbers as small as these it would be hard not to rule out this as a chance finding or due to other factors not addressed in this study."

Commenting on the two reports so far published, Dr

New hotel

ECHO readers may have noticed articles in the local press about the possibility of a new hotel at Harwell International Business Centre.

Although no deal has been done, UKAEA has confirmed that they are holding discussions with an operator. If these discussions are successful a planning application will be submitted in due course and more details will be included in a future edition of ECHO.

Eric Roman, an author from the Leicestershire Research Fund said, "These results, together with our previous findings of no risk of cancer in children of men working in the nuclear industry, are very good news for these workers."

Staff who would like advice about this latest report should contact the site occupational health centre.

BBC 'Any Questions?'

This is to remind readers that the BBC's popular radio programme 'Any Questions?' will be broadcast live from the Cockcroft Hall, Harwell International Business Centre, on Friday 15 December at 8pm. Staff and members of the public, over the age of 14, are invited to attend free of charge. The programme, which will debate questions arising from the news that week, is to be chaired by Jonathan Dimbleby. Among the panelists will be Roy Jenkins from East Hendred. If you would like to be considered for a ticket, please contact Nick Harce (UKAEA B821 Harwell, Didcot Oxon OX11 0RA or email: nick.harce@ukaea.org.uk) with relevant details.

Wantage MP, Robert Jackson, saw for himself the rapidly changing face of Harwell International Business Centre during his recent visit.

The highlight of the visit, hosted by John Wilkins, UKAEA head of site, included donning protective clothing to see progress in the environmental restoration of the Southern Storage Area. Mr Jackson later saw the rapid progress being made in the construction of AEA Technology's new Engineering Software Services building on Ferni Avenue.

Over lunch he was joined by Steve Moss, UKAEA's head of the central property development unit, and discussions centred on the development potential for Harwell within the constraints of being a licensed nuclear site.

MP views Harwell changes



Visited at the Southern Storage Area (left) Paul Ayres (UKAEA) Robert Jackson MP, Paul Cashin (BHE) and Chris Morgan (UKAEA).

Robert Jackson said, "I am very impressed with the scale of work and thorough approach being taken to restore the Southern Storage Area. This multi-million

pound scheme is one of the ten largest 'greening' projects in the UK and is effectively dealing with the problem of 60 years of military and industrial occupation."

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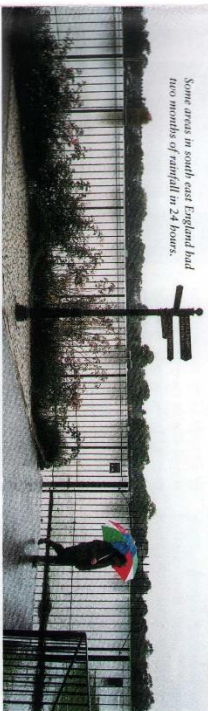


ECHO

THE NEWSLETTER OF THE CULHAM SCIENCE CENTRE & HARWELL BUSINESS CENTRE NOVEMBER 2000

'Our most challenging project to date'

Some areas in south east England had two months of rainfall in 24 hours.



Harwell company has been heavily involved with the clean-up work and restoration for a number of organisations and businesses in the Lewes and Uckfield areas after the terrible flooding that struck when the River Ouse overflowed.

Harwell Drying & Restoration Services managing director, Ken McKevvie, said "This is by far the largest project we have ever been involved with. Two of our longest standing 'priority users' - East Sussex Record Office and the University of Sussex - were very badly affected. At one point the record office was under nine feet of water. Logistically the damage caused by East Sussex floods will prove our most challenging project to date."

HDRS specialises in the freeze-vacuum drying of documents and books after fire and flood. The business, which began in 1979, has developed in the past two decades to become the UK leader in its field. The devastation suffered in East Sussex last month is far from being a freak event. Environmental experts predict that such floods will increase by up to ten times over the next century. Global warming is partly responsible, having had

an impact on weather patterns.

Alan Heasman of the Met. Office in Bracknell comments, "The annual rainfall in the UK has not increased significantly in the past ten years. The greater problem is the intensity of the rainfall and the fact that the land is not being capable of adequate drainage due to development of roads, and expansion of towns. There is nowhere for the water to go."

This was certainly true in Lewes where they experienced two months rain in 24 hours. Global warming is not the only culprit. The pressure for housing, particularly in the South East, has led to the development of land which has been a natural flood plain for centuries. The Environment Agency estimates around two million homes and businesses are currently at risk from a disaster similar to that experienced in East Sussex. With three million more homes planned for the South East by 2016, the Association of British Insurers is concerned about the mounting costs of claims and is demanding a halt to further development on flood plains.



HDRS disaster recovery team on-call 24 hours a day.

This month

Students STEP up



Fire safety



Strong advice



Well restored



Wildlife benefits



OBITUARY

Dr John Thresher

Dr John Thresher, former associate director of the Rutherford Appleton Laboratory, has died, aged 71.

Dr Thresher began his career at the UK Atomic Energy Research Establishment, Harwell, before spending two years at the Lawrence Radiation Laboratory in Berkeley, US, before returning to join RAL in 1975 and associate director for particle physics in 1981. His association with CERN, the world's biggest particle physics research centre in Geneva, began in 1968. He and his group studied the properties of short-lived elementary particles called hyperons. Between 1986 and 1991 he was CERN director of research with responsibility for a new experimental programme. He retired in 1992.

He was a member of Thames Vale Youth Orchestra and chairman of the Thames Vale Music Trust. Dr Thresher was also an active member of the Ashington Probus Club.

Oxford Trust helps students take first STEP

An award ceremony at Rutherford Appleton Laboratory marked the culmination of a successful work-placement project for ten undergraduate students from universities across the UK.

The STEP programme is run by the Oxford Trust, an organisation that encourages the study and application of science and technology in Berkeley, US, before returning to join RAL in 1975 and associate director for particle physics in 1981. His association with CERN, the world's biggest particle physics research centre in Geneva, began in 1968. He and his group studied the properties of short-lived elementary particles called hyperons. Between 1986 and 1991 he was CERN director of research with responsibility for a new experimental programme. He retired in 1992.

Research has shown that small businesses that take STEP students can expect a six-fold return on their investment in the project. Any organisations who would like to take part in next year's programme should contact Anne Lechelle at the Oxford Trust on 01865 728953 or email anne@oxtrust.org.uk

Tomorrow's breakthrough arrives today

A new scientific research instrument at the Rutherford Appleton Laboratory was officially inaugurated in October.

The Osiris spectrometer will provide scientists with the unparalleled combination of a spectrometer and a diffractometer in the same instrument. Using this they will be able to measure



Edith Coakley won first prize for her work to help children with language difficulties.

where the atoms are and how they move in, for example, electro-active polymers, energy storage systems and magnetism. Osiris will be one of the first instruments to use pulsed neutron polarisation analysis.

This gives scientists the opportunity to discover new information necessary to unravel complex molecular diffusion in catalysis and magnetic structures such as in new high temperature superconductors and the most powerful magnetic materials. This new technique involves the polarisation of helium gas, first developed for lung imaging. A recent breakthrough in laser technology allows much more helium to be polarised. The neutrons are polarised by passing through a large volume of the polarised gas. Polarisation analysis has been a technique which has long



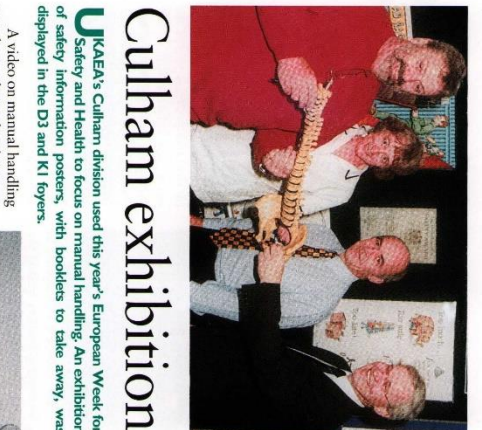
Neil Saunders holds a trophy for his record of 67 appearances for his country. His Commonwealth shot-put record of just over 71

World's strongest man visits Harwell

Geoff Capes, former UK shot-put champion and world's strongest man, visited Harwell International Business Centre as part of the European Week for Safety and Health. Invited to give lectures to staff on safe lifting and carrying, he also toured exhibition stands set up in the radiochemical facility (B220) at Harwell.

Once a former physical training instructor with the Cambridge police at Peterborough, Geoff was soon partnering with police officers from UKAEA at Harwell promoting health and safety for officers on duty. AEA Technology, RCUK's occupational health staff, and UKAEA's southern division also mounted displays in support of the safety week.

Geoff is the most capped British male athlete of all time with 67 appearances for his country. His Commonwealth shot-put record of just over 71



Capes holds a plastic spinal column with Neil Saunders (RCGIT occupational health services at Harwell), Duncan Hardham (AEA Technology, Harwell) and AEA Technology safety director, Rob Thomas.

Culham exhibition

UKAEA's Culham division used this year's European Week for Safety and Health to focus on manual handling. An exhibition of safety information posters, with booklets to take away, was displayed in the D3 and K1 foyers.

A video on manual handling was shown during lunches at both venues. All those attending received a free promotional t-shirt. Approximately 200 people attended these sessions. Advice was available at the showings from Sarah Nisier of RCGIT.

A manual handling questionnaire and competition was run throughout with prizes donated by Alstec, Amey, Fierrofi, Johnson Controls, Morsion, Sovereign, The Shop and UKAEA. Organisers were extremely pleased with all the support they received and the enthusiastic response of the staff. Trevor Hayes, Culham division safety officer, said, "I was delighted that the week was such a success - it was definitely a worthwhile exercise."

Dave Pirbright, machine operations group, demonstrates the message.



There has been one reportable incident at Harwell and none at Culham since the last issue of ECHO.

SAFETY Update

At Harwell an inter-vehicle power supply unit, which is an item of safety related equipment, was overdue for its six monthly service.

FOR SAFETY'S SAKE

Did you know that nearly one in three nationally reported industrial accidents involves slips, trips and falls? At Harwell this year the proportion has been slightly higher. We can all help to reduce this type of accident by:

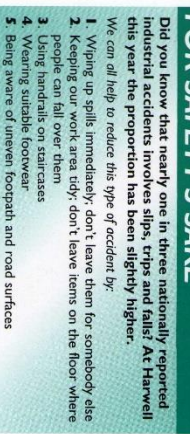
1. Wiping up spills immediately; don't leave them for somebody else
2. Keeping our work area tidy; don't leave items on the floor where people can fall over them
3. Using handrails on staircases
4. Wearing suitable footwear
5. Being aware of uneven footpaths and road surfaces

Harwell Innovation Centre

HI2

Interactive computer games have evolved into a vast worldwide market. At the leading edge are interactive games played over the internet which create playing communities on a global scale. Each day an estimated 30 million people play on-line.

Behind the scenes there are organisations responsible for running these highly popular games channels. One of which is HI2, a company now occupying space at the Harwell Innovation Centre. The company has grown rapidly since a buyout from Cable & Wireless a few years ago. HI2 is the developer of an internet games channel that is earned by leading ISPs (Internet Service Providers) around the world. ISPs including America On-



Harwell launches National Fire Safety Week

A successful conference organised by the Oxfordshire Fire Liaison Panel at Harwell marked the launch of this year's National Fire Safety Week.

Jim Fitzpatrick, MP, chairman of the House of Commons All Party Fire Safety Committee, opened the conference in Cockerell Hall. In his keynote speech to the 100 delegates he said that better fire safety benefited from partnerships between business, commerce and the public sector. Graham Hart, Johnson Controls fire protection adviser co-ordinated the conference arrangements. These included an impressive array of fire-fighting appliances drawn from county fire stations and parked outside the hall. Inside a number of safety companies exhibited fire detection and water sprinkler systems. Also in attendance was Oxfordshire's Fire Victim Support unit. Their role is to attend fire scenes to assist traumatised victims.



Children learn some simple rules of fire prevention and how to turn a fire smoke alarm for their homes.

Alison Ashcroft, deputy head teacher of Chilton school brought 33 children to see fire demonstrations which included a chip pan fire. Graham said, "It was a busy day but very worthwhile. Everyone involved is pleased that Oxfordshire was asked to launch this year's national fire safety week and I'm delighted that it was at Harwell."

First anniversary

AEAT's Analytical Services Group was sold to Scientifics (Derby) Ltd in October last year. Currently employing 60 staff, it continues to provide AEA Technology with an on-site analytical services, as well as carrying out contract analysis for a very wide customer base. After AEAT, the largest groups of customers are in the semiconductor and the pharmaceutical industries. Since the sale, work to non-AEAT customers has grown by nearly ten percent, with a significant increase coming from work for European customers. Some staff have taken advantage of the field work involved to improve their skiing and language skills, as the sites involved are in French and Italian Alps!



NRPB reflects on the past and looks to the future



Guests and staff filled Cockcroft Hall to capacity for a special anniversary since the creation of the National Radiological Protection Board (NRPB).

The audience was treated to a fascinating journey tracing the events that have shaped the organisation during the last three decades. They were also given a glimpse of the changing role of NRPB as it evolves to meet new demands in the twenty-first century.

H. John Dunster, founder member and NRPB director from 1982-7, referred back to 1946 when the government embarked on a nuclear power programme. He recalled the scientific advances that spawned the Radioactive Substances Act and its advisory committee.

Sir Richard Southwood, NRPB chairman from 1985-1994, explored the implications

of risk and progress versus the need for protection. He explained how the balance had changed over the years. When risks to individuals become uncertain – for example, the effects of radiation, electromagnetic fields or mobile phones – protection requires an independent technical expertise, which underpins all its work, and how new skills have enabled the organisation to respond to today's new challenges.



Following the review process during the 90's Professor Clarke spoke about a revitalised organisation that had regained its momentum and seen its scientific and advisory integrity retained. This was demonstrated by the request by Tessa Jewell MP for NRPB to set up an independent committee to investigate the safety of mobile phones.

In his 'glimpse of the future' Sir Walter Bodmer, NRPB chairman, examined the ways in which the organisation was moving in new directions to tackle current and future issues.

The debate about what to do with our rubbish is gaining momentum, but have you ever wondered how the natural world copes with its rubbish disposal? Each year there are literally tonnes of leaves, twigs and branches, dead grass, and all those dead insects and animals.

The most impressive disposal is performed by the vast array of fungi which can remove whole tree trunks in just a few years. This is actually happening on the Mound, the wooded area by B521, where a number of glades have recently been created. At this time of year at least four species of fungi are visible on felled trees which have been left to rot away naturally.

As for the leaves, these are pulled into the ground by worms so that, by the arrival of

spring, most have miraculously disappeared. The team of grounds staff at Harwell speed up the process by sweeping the leaves up in some areas such as the playing fields. The leaves are left to rot down in a heap before being put back onto the flowerbeds as a mulch to retain moisture and suppress weeds.

Small animals such as rabbits will, if freshly killed, provide food for a buzzard perhaps. If not fresh they will still be eaten by scavengers such as carrion crows and magpies.

Today, he noted, we are 'risk averse' and demand the greatest degree of protection to date. "As we live longer we have more to lose" he noted.

Professor Roger Clarke, NRPB director since 1997, stressed that objectivity is a guiding principle. Around the world NRPB reports are regarded as definitive statements, completely independent of government or industry. He praised the staff at NRPB for their strong technical expertise, which underpins all its work, and how new skills have enabled the organisation to respond to today's new challenges.

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In addition there is an army of beetles ready to clean the place up. Burying beetles, carrion and rove beetles all lay their eggs in the dead body. Although these



NRPB now had a public health remit, for instance, and had seen a shift in its work from focusing to non-ionising forms of radiation. Studies included behavioural factors such as mobile phone use, and dealt with genetic susceptibility and epidemiological effects.

The board had contracted its need to win external contracts to provide funding for its work and was successful at competing in the business arena. Finally, Sir Walter stressed how there had been a major change in NRPB's public interface. Today members of the public are more aware of its work and show a much greater interest. As a result NRPB aims to present information in a way that can be interpreted by the public.

The website would be an increasing by important point of contact and NRPB would be exploring other ways of communicating such as the public meetings held as part of research for the report by the Independent Expert Group on Mobile Phones published in May 2000.

King Alfred's Well restored

Staff of UKAEA's safety & environment department at Harwell left their offices for a hard day's work at a local history site. They chose remedial work at the site of King Alfred's Well in Wantage for a team-building day. The local council was keen to make the site more accessible.

Some 26 staff cleared undergrowth, constructed steps and paths ways and even built a wooden bridge across the stream that flows through the site. Expert guidance, tools and insurance were provided by staff from BTCV, the national charity supporting volunteer conservation work.

Jon Woodcock, BTCV operations manager, said, "Harwell staff have provided a month's

worth of labour today and they have made a valuable contribution to our two-year programme to restore this historic site." The mayor of Wantage visited the site during the afternoon and spoke with some members of the group.

Afterwards the local leisure centre kindly allowed the group free use of showers and changing facilities. The day was completed with a sit-down buffet meal at a local inn.

Companies wishing to benefit from community based team building projects can contact BTCV on 01528 771189.



Retirement after 25 years

After 25 years' service in the UKAEA Constabulary chief inspector Jack Groves retired at the end of September. Jack came to Harwell in 1977 and reached the position of operational unit commander. All UKAEAAC personnel at Harwell wish Jack a long and happy retirement.

UKAEA wildlife support recognised

This year's BROWT annual conference saw its largest gathering of wildlife conservationists to date.

Over 120 delegates attended the third volunteer conference of the Berks, Bucks and Oxon Wildlife Trust (BBOWT) at the UKAEA at Harwell for sponsorship. Whately campus of Oxford



Photo: George McCarthy
A brown hare, Harwell was originally named 'Harwell' due to the abundance of hares on the Berkshire Downs.

Brookes University in October. Sir Henry Aubrey Fletcher, BROWT chairman, welcomed delegates and said it was a fitting climax to the trust's 40th anniversary year. Director, Martin Spary, publicly thanked UKAEA at Harwell for sponsoring the conference.

Called 'Brookersy 2000', the first session was led by Christine Bailey. She explained that conservation objectives in the three counties mirrored those at a national level, but were largely carried out by hundreds of volunteers. She specifically mentioned conservation of the water vole which had suffered an 88% decline between 1992 and 1998, and was facing extinction. The

bar population has also declined over the past 20 years. On a positive note, species such as the

Allen Edwards, department head, commented, "I'm pleased that the department decided to take on this conservation project for the benefit of the local community. It fits in well with UKAEA's mission to restore its environment and our recent drive to achieve ISO14001 certification for environmental standards. It has been a good team-building project."

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OUT & ABOUT
'Dead Funny'
9-11 November
Compton Players will be performing 'Dead Funny' by Terry Johnson on Thursday 9, Friday 10 and Saturday 11 November at Compton Convent Hall. In this comedy (NOT suitable for children) the Dead Conventists Society gathers to mourn the tragic loss of Benny Hill, with hilarious results. Box office: 01635 579821.

there will be a Christmas Craft Fair with over 70 stalls at Highbourne School and Village Hall, East Highbourne, near Didcot, from 11.30am - 4.30pm. Entry 75p (children free). Home-made refreshments available all day. Details 01235 850568.

Christmas Craft Fairs

The Thames Craft Guild Christmas Craft Fair is being held on Saturday 18 November in The Abbey Hall, Abingdon from 9.30am - 4.30pm. Proceeds go to charity. Admission is adults 40p, free entry for accompanied children (under 14).
On Sunday 19 November there will be a Christmas Craft Fair with over 70 stalls at Highbourne School and Village Hall, East Highbourne, near Didcot, from 11.30am - 4.30pm. Entry 75p (children free). Home-made refreshments available all day. Details 01235 850568.

Nature's recycling scheme

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