

21 years of local liaison

The Harwell Local Liaison Committee (LLC) 'came of age' at its November meeting. The committee has provided an active forum for the exchange of views and news between representatives of the local community and Harwell management since 1979.



The LLC meets at the NRPB's Training Centre.

Initially held once a year under the chairmanship of the then site director, Harwell's LLC started meeting three times a year in 1993, a pattern that has remained ever since. Its 21st anniversary meeting was held at the NRPB's training centre on 24 November and was attended by 35 people.



John Wilkins (right) and Clive Vernon Butt

Representation comprises local government councillors and officers, special interest groups such as local chambers of commerce, the Oxfordshire federation of Women's Institutes and the National Farmers Union. Also represented are the

regulators, including the Nuclear Installations Inspectorate, the Food Standards Agency and the Environment Agency. Staff unions send representatives, as do campus organisations, such as RAI, NRPB, MRC and Sirex. AEA Technology, as Harwell's largest tenant, is also represented.

John Wilkins, UKAEA head of site, chairs the meetings and the Chair of the Vale of White Horse District Council (VWHDC) sits alongside as John's deputy. The largest representation is by VWHDC councillors and officers, but local parish councils such as Harwell, Chilton, East Hendred and Sinton Courtenay attend and a member of the local press sits in on its deliberations.

During the course of a year the committee considers a number of regular agenda items, such as safety and environment reports, as well as discussing the current work on the site. The advent of e-mail means that news about Harwell can be transmitted at any time, at the touch of a button, to local stakeholders including LLC members.

SAFETY Update

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

At Harwell, some ventilation alarm signal transducers were past their due calibration date.

Beanie Babies raise cash



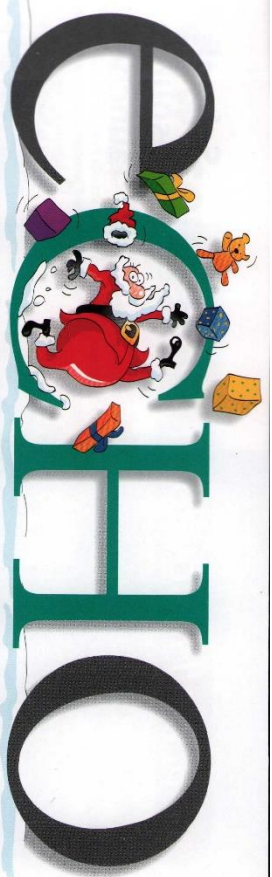
Paul White, UKAEA director of finance, hosts in to purchase Beanie Babies. Christmas presents for younger members of his family.

Beanie Baby fans at Harwell helped raise £145 for this year's BBC Children in Need campaign. Fellow collectors, Melony Kingston and Sue Bradbury, who both work for UKAEA in BS21, arranged a number of activities to raise some cash from colleagues. They organised a Beanie Baby sale, a raffie and an auction featuring a rare bear toy called Binghamham who is exclusive to the UK.

ECHO 2001 Publication Dates

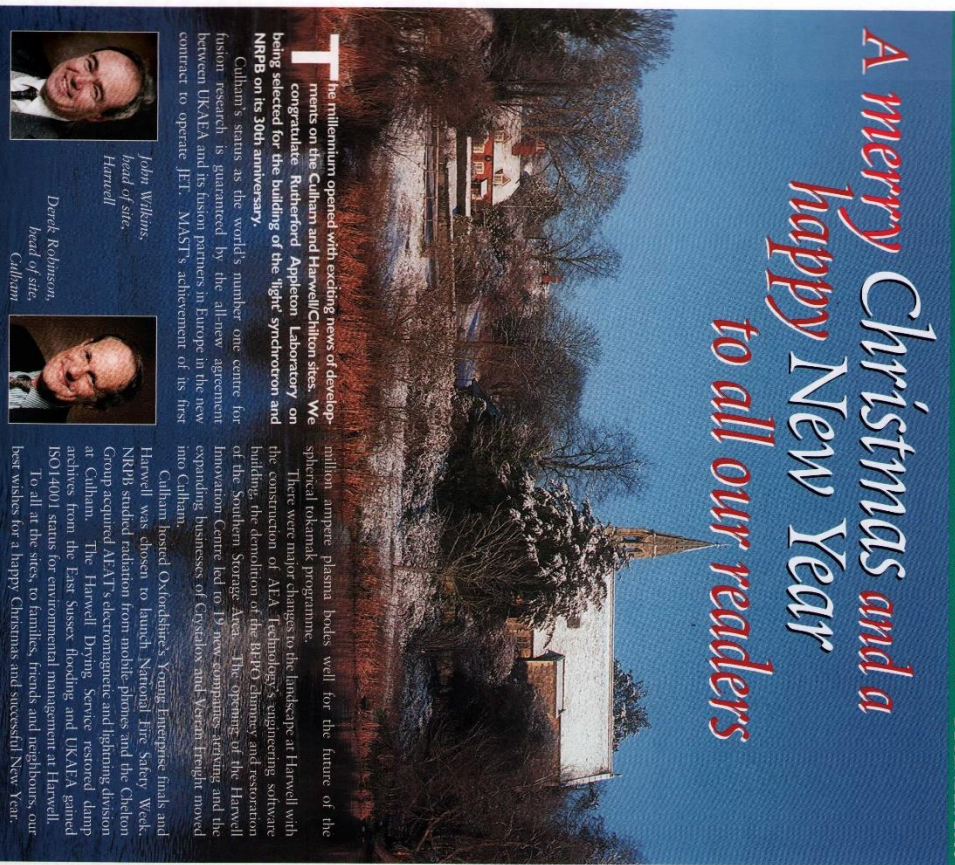
A cut out and keep list of copy deadlines and publication dates for ECHO during 2001.

Issue	Copy deadline	Published on
FEBRUARY	Mon. 22 January	Wed. 7 February
MARCH	Mon. 19 February	Wed. 7 March
APRIL	Mon. 19 March	Wed. 4 April
MAY	Thur. 19 April	Wed. 9 May
JUNE	Mon. 21 May	Wed. 6 June
JULY/AUGUST	Mon. 18 June	Wed. 4 July
SEPTEMBER	Mon. 20 August	Wed. 5 September
OCTOBER	Mon. 17 September	Wed. 3 October
NOVEMBER	Mon. 22 October	Wed. 7 November
DECEMBER	Mon. 19 November	Wed. 5 December



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

A merry Christmas and a happy New Year to all our readers



The millennium opened with exciting news of developments on the Culham and Harwell/Chilton sites. We congratulate Rutherford Appleton Laboratory on being selected for the building of the 'light' synchrotron and NRPB on its 30th anniversary.

Culham's status as the world's number one centre for fusion research is guaranteed by the all-new agreement between UKAEA and its fusion partners in Europe in the new contract to operate JET. MAST's achievement of its first

million ampere plasma holds well for the future of the spherical tokamak programme.

There were major changes to the landscape at Harwell with the construction of AEA Technology's engineering software building, the demolition of the BPEO chimney, and restoration of the Southern Storage Area. The opening of the Harwell Innovation Centre led to 19 new companies, adding and the expanding businesses of Crystadox and System Freight moved into Culham.

Culham hosted Oxfordshire's Young Enterprise Fairs and Harwell was chosen to launch National Fire Safety Week. NRPB studied radiation from mobile phones and the Culham Group acquired AEMT's electromagnetic and lightning division at Culham. The Harwell Drying Service restored damp archives from the East Sussex flooding and UKAEA gained ISO14001 status for environmental management at Harwell.

To all at the sites, to families, friends and neighbours, our best wishes for a happy Christmas and successful New Year.



John Wilkins, head of site, Harwell



Derek Robinson, head of site, Culham

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THE COPY DEADLINE FOR THE NEXT ISSUE IS: Monday 22 January for publication on Wednesday 7 February 2001.



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Harwell Innovation Centre

Unique students insight

Knowing what would appeal to students is the secret behind a new enterprise run from Harwell Innovation Centre.

Unique Students Ltd is the brainchild of Stuart Macchride and David Ward, both 23, who recently graduated from Oxford Brookes University. While studying they began to put together a business plan with the help of a few colleagues. They now run a national student shop, selling reasonably priced house wares and gifts aimed at the student market.



David Ward with some of the goods on sale - a cat, a flower lamp and an inflatable chair.

David and Stuart won first prize for their business plan in a national competition held at Venturwest 2000 in June. Dr Russell Smith, one of the judges, was so impressed with the business plan that he was happy to assume the role of chairman of the new start-up company.

Roger Mumby-Croft from Oxford Brookes University's Enterprise Centre became non-executive director and the company secured the funding it needed to start trading in the summer. The business is one of the first 'spin out' companies from the university.

Now into its third month, Unique Students Ltd has launched a website and Stuart and David have visited dozens of

universities all over the country with a mobile display. Requests for catalogues are pouring in. The business has three selling routes through mail order, e-commerce and, most importantly, direct selling.

"Unique Students Ltd is a unique concept. It is the first national university shop, selling items for students rooms, houses and loads of gadgets and gizmos," comments David Ward. "The response at trading days and freshers fairs has overwhelmed us. We're now preparing for the Christmas rush!"

Student Sets are extremely popular, with students and their parents. A kitchen set, for example, contains enough plates and bowls and glasses for one or two students. Other good sellers are laundry baskets and alarm clocks, in many shapes and sizes! Novelty items such as lava lamps, fibre optic UFO lamps, plasma balls and tubes sell well, as do the micro state scooters for getting around the campus and folding up for lectures. The new website can be found at www.uniquestudents.com or telephone 01235 838563.

Harwell Innovation Centre is managed by Oxford Innovation Ltd. It provides premises and services to new science and technology companies on a very flexible basis. Companies and individuals seeking premises are welcome to call Mandy Bennett, manager, Harwell Innovation Centre, tel: 01235 838500. Conference and meeting rooms are also available. Oxford Innovation also runs Oxfordshire Investment Opportunity Network, which helps companies seeking expansion funds in the range of £10,000 to £300,000 or more. For details please contact George Whitehead on 01865 811143.

New look ABC AGAINST BREAST CANCER SEE WHAT YOU CAN DO

Harwell-based charity, Action against Breast Cancer (ABC) was re-launched on 1 December with a new name and a new image. London consultants Wolff Olins and Redwood, have donated their services to create a new corporate look for the charity. Now called Against Breast Cancer, the charity will be able to raise its profile and communicate in a more professional manner.

Schools resource launched

Rutherford Appleton Laboratory recently hosted an event to launch a new schools initiative. The Oxford Trust, together with the South Oxfordshire Education Business Partnership, has secured funding from Shell to provide a new resource for local secondary schools to explore environmental issues. The resource comprises six sets of equipment, available to schools to carry out problem-solving activities. Themes include wind energy, the hole in the ozone layer, Earth observation from satellites, plastics recycling, water pollution and biomass fuel.

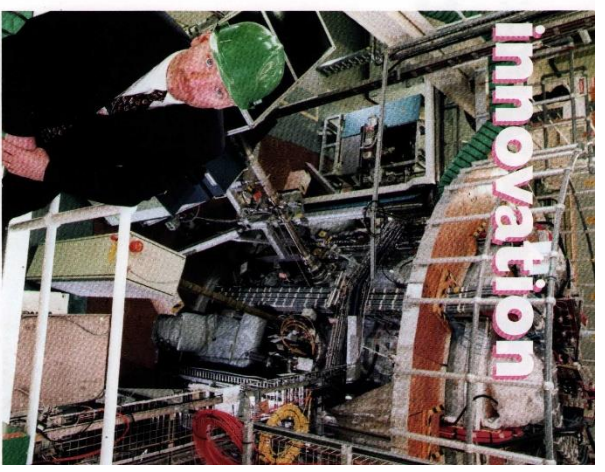
Plans for hotel and leisure complex

A major hotel company is in discussion with Harwell International Business Centre with a view to locating a 140-bed hotel and leisure complex at the site. The proposed development, currently awaiting planning permission, will give staff access to a first-class leisure complex providing squash and tennis courts, swimming pool, multi-gym, dance studio and full spa facilities. It will also be open to people in the local community on an annual membership basis. Ian Rodham, commercial manager at Harwell's central property unit said, "This development is an important part of the strategy for the business centre and will significantly enhance the amenities and facilities available to the growing business community on the site. "If approved, the hotel will provide high quality accommodation for business and scientific visitors, while the neighbouring campus, and the conference facilities and restaurant will also be of direct benefit to the local business community."

New centre for innovation

UKAEA's fusion and industry team has unveiled plans to open an Innovation Centre for UK businesses at the Culham Science Centre as part of a series of new initiatives designed to forge closer links with industry.

The Innovation Centre is intended for engineering and technology start-up companies who may be able to benefit from the skills and technologies used in fusion research. UKAEA Culham Science Centre is recognised as a world leader in fusion research. Cleve Forry, fusion and industry manager, says, "Our research brings together an enviable set of engineering skills and expertise for companies to tap into. For example, our simulation and modelling skills are as applicable for financial modelling as they are for increasing the efficiency of gas-turbine engines. "We are in discussions with one of the country's leading organisations specialising in new business development within the



"Start-up companies will have access to the skills and technologies used to develop MAST", says Cleve Forry.

ENVIROSQUANTISCI

Knowledge innovation solutions

Environmental consultant, Envirocos QuantisSci, has taken over 3,000 sq ft of office space at Culham Science Centre. The company's new office in D5 will be a centre for environmental assessment and related software applications, focusing on hazardous waste management. Previously based at Henley-on-Thames, Envirocos QuantisSci cited proximity to like-minded businesses and a high quality labour pool as the key reasons for relocating to Culham.

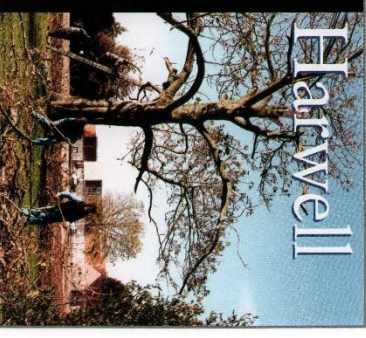
Graham Smith, environmental assessment group leader, commented, "Culham Science Centre is an excellent incubator for our business with many like-minded companies located close-by. It offers good travel connections and gives us easy access to our clients. Culham provides us with a high quality labour pool, from which to recruit skilled professionals. We are currently seeking to recruit a graduate for our software applications team.

and further vacancies are expected in the near future as the business grows." Envirocos QuantisSci is part of the Envirocos group of companies, which together provide environmental consultancy and products, as well as specialist IT applications. The consulting arm of Envirocos is

organized into five client-facing business units covering quantitative risk assessment, waste strategy, climate change, corporate environmental services, and due diligence. For more information see the website at <http://www.envirocos.com/quantis/>

Storms hit Harwell

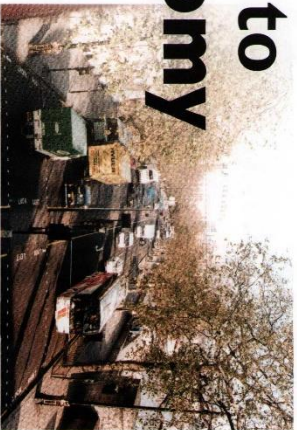
Oxfordshire did not escape the onset of Britain's winter storms and Harwell grounds staff had rather more than just fallen leaves to sweep up on Monday 30th October. Seen here, at Harwell, are workers removing fallen branches and making safe a tree that lost its crown overnight. Elsewhere ravaged trees were removed and drains unblocked so that flooded roads could clear their way to work, caused by flooding in several Thames Valley villages.



Remained tree trunks on the site of the former Harwell restaurant.

Getting wise to fuel economy

A typical heavy goods vehicle will use 425,000 of diesel every year. A five per cent saving will therefore reduce bills by £1,250. Whatever the outcome of recent protests, two things are clear. The cost of fuel will continue to make up a large proportion of transport costs and reducing fuel consumption cuts the amount of harmful emissions being discharged into the environment.



In response to these factors - and a belief that UK industry did not give sufficient emphasis to fuel efficiency - a new company was formed in 1994. Called Fuelwise it would offer specialist fuel consultancy, drawing on the considerable experience of its two founding directors, Paul Randon and Ken Atkins, who had both reached senior positions within the transport industry. In 1998 Richard Bungay joined Fuelwise from the BOC Group, where he

had spent 21 years in the distribution industry. Earlier this year Fuelwise opened an office at Harwell to partner the existing base in Bristol. Richard Bungay heads the Harwell operation located in Bl166.

"One of the biggest problems is obtaining good quality information about current performance," comments Richard. "To this end Fuelwise has developed software that can analyse and

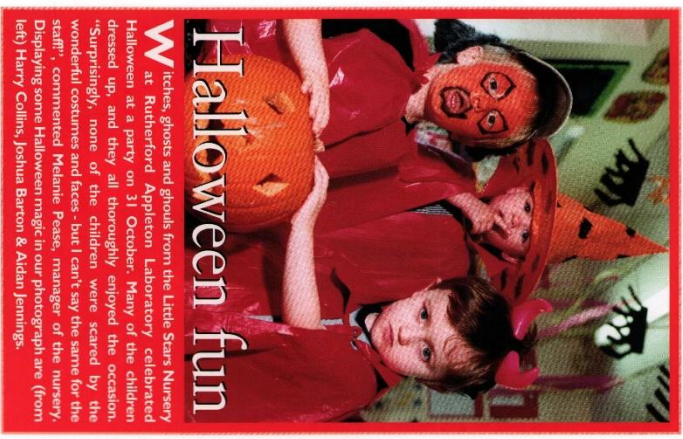
'clean-up' fuel data to give accurate consumption information. During the past six years we've also investigated many different fuel saving products. We've experience of fuel monitoring and test procedures that we've developed as part of contracts undertaken."

The target market for Fuelwise services is a large one. It includes road transport and distribution companies from road haulage to taxi operators and public transport, car and van fleet operators, and government departments and associated bodies such as DETR and ETSU. Fuelwise also deals with manufacturers of equipment designed to improve fuel efficiency, and suppliers to the transport industry, such as oil companies, vehicle manufacturers and tyre producers.

"One of the vital areas is staff motivation," comments Richard. "We've helped produce a training video for drivers about how driving technique can improve fuel efficiency."

"A heavy goods vehicle normally uses a gallon of diesel every seven to ten miles, so learning how to drive in a more measured way, to anticipate in advance and make fewer gear changes, will make a huge difference. It also makes for a much more relaxing style of driving."

For fleet operators, Fuelwise has designed a 'fuel management excellence' programme. This includes a driver training manual, videos, leaflets and posters. On-board equipment to monitor vehicle and driver performance is part of the package.



Halloween fun

Witches, ghosts and ghouls from the Little Stars Nursery at Rutterford Appleton Laboratory celebrated Halloween at a party on 31 October. Many of the children dressed up, and they all thoroughly enjoyed the occasion. "Surprisingly, none of the children were scared by the wonderful costumes and faces - but I can't say the same for the staff," commented Melanie Pease, manager of the nursery. Displaying some Halloween magic in our photograph are (from left) Harry Collins, Joshua Barton & Aidan Jennings.



AEAT helps destroy US weapons

A system developed by AEA Technology could be used to destroy much of the 30,000 tons of chemical warfare agent stockpiled in the United States. The US army is testing the SILVER II system which reduces highly toxic organic chemicals to harmless carbon dioxide, water and salt.

Two SILVER II plants have been built in the UK and Maryland to US army bases in Maryland and under a contract worth around £7m. The plants will be used to demonstrate the safe destruction of hazardous weapon components such as chemical agents, TNT, RDX and Semtex, and solid rocket propellants.

SILVER II was developed in 1987 by AEA Technology as a means of destroying organic wastes generated by the nuclear industry. The name derives from the silver ions which are formed during the destruction process and which attack the chemical agent or organic waste. The nuclear programme led to the construction and operation of a 4kW demonstration SILVER II plant at Downreay, Scotland. A similar size plant was built by AEA Technology in 1996 at Porton Down, for live chemical warfare agent testing. Tests have confirmed that SILVER II can safely destroy agents such as Sarin and VX nerve agents, blister agents such as Mustard and Lewisite, various explosives including TNT, RDX and Semtex, and solid rocket propellants.

550-tonne roof over

There are exciting developments at the MAST (Mega Amp Spherical Tokamak) fusion experiment at Culham. The first MAST operating campaign was a resounding success, with results that fulfilled every expectation, including the production of a plasma of more than 1 million amperes.

A new physics campaign is planned to start in January 2001. This will include high power deuterium neutral beam injection, which produces neutron radiation. To minimise any radiation leakage a 600mm thick pre-cast concrete roof weighing 550 tonnes has been installed during the shutdown.

The roof's construction tested the boundaries of concrete manufacturing technology, as installed during the shutdown. The preparation and installation of the beams was completed without problems in a matter of days."

Political heavyweights at Harwell

Tickets are being sent out for the live radio broadcast of 'Any Questions?' from the Cockcroft Hall at 8pm on 15th December. The panelists include Jack Straw, home secretary, with John Redwood and Paddy Ashdown. Unfortunately Lord Jenkins is indisposed and cannot now appear on the programme. A small number of free tickets may still be available from Nick Hance (nickhance@ukaea.org.uk).

high explosives and solid rocket propellants. The work is being carried out under the USA's assembled chemical weapons assessment programme which was launched in 1997 after Congress ordered the army to demonstrate at least two alternatives to incineration for the destruction of stockpiled chemical weapons. SILVER II is being tested alongside four other systems. Based on the test results, contracts will be let for the construction of full-scale demilitarisation plants at chemical weapons storage sites. At Blue Grass, Kentucky, 70,000 rockets armed with Sarin and VX nerve agents are held, and at Pueblo, Colorado, munitions containing mustard gas are stored. Terry Graham of AEA Technology said, "Residents living close to weapons storage sites have been concerned for some time to see them destroyed. However, there is also growing pressure to ensure that the destruction does not harm the environment and techniques such as incineration have resulted in public opposition. SILVER II can provide the means to remove these weapons forever in a completely safe and environmentally responsible manner."

AEA Technology half year results

Turnover - £171.9m

Operating Profit - £2.7m



Harwell Defence and Nuclear Establishment staff are fitting a pre-cast concrete roof to the MAST fusion experiment.

All change on the buses

The last date of operation of the Johnson Controls home to work service will be Friday 12 January 2001. The home to work service has had to be withdrawn because it had been making substantial losses for some time and Johnson Controls could not continue to operate it on this basis without additional external financial support. Johnson Controls would like to thank everyone who has used the service. The new Stagecoach service begins on Tuesday 2 January 2001. All organisations should by now have received triable details and a public transport guide is currently in production.



OUT & ABOUT

The Tough Princess

Stagelights present. The Tough Princess, 7.3 and December at the Old Mill Hall, Grove. The production has been adapted from a children's book and follows the life of an unconventional princess, Clara Jelfrey, a local young composer, has created some songs to be performed by StageRights, a local children's theatre group. Great fun for all the family with a mature performance on Saturday 9 December. Tickets available from Beers in Manage or tel. 01235 370736.

Themes Craft Guild exhibition

An exhibition to mark the 20th Anniversary of the Themes Craft Guild is being held on Saturday 26 December from 10.00am to 4.00pm at St. Nicolas Church, Market Place, Aylinton. The Platinum Anniversary for St. Nicolas Church will be on display and Christmas available.

Christmas tree sales

On Sunday 10 December and Sunday 17 December, Christmas trees will be on sale between 11am-2.30pm near Southgate, Beke. Scots Pine trees that don't drop their needles will be available. Sales organised by BBOVWT. Meet at the church from 10.00am at D. Ryland, Lincs. 0118 959 8118 or C. Winder 01753 85493 for more details.

Boxing Day walk

Foraise the TV and the cold turkey and join a BBOVWT rafter for an amble at Shoreover, Oxford, on Boxing Day, Tuesday 26 December. Hotted wine and mince pies on sale afterwards, suitable for families with young children. Meet at 11am, Shoreover Country Park. Contact A. Reberts on 01865 713830.

Chilton Children's Club – the 3 Cs

The 3 Cs is an after-school club for the children of Chilton Primary School which aims to provide high quality after school care in a safe, relaxing and happy environment. A leader and assistant are employed at each session to run an extensive programme of activities from 3.15-5.30pm, Monday to Friday. These include arts, crafts, board games, drama, cookery and sports. A quiet area is available for children with homework. All that and a pet hamster too! If you would like further details, please contact the school office on 01235 834263.

'Kill-a-Watt' campaign

AEA Technology is embarking on a group-wide campaign to save energy. The initiative highlights easy steps that all staff can take to help save energy in the workplace, and at home.

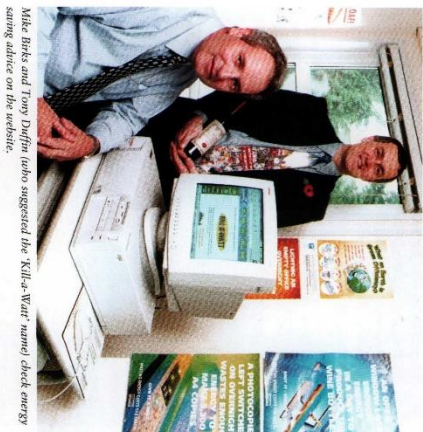
To name the campaign AEA Technology ran a competition. The winner was Tony Duffin, from AEA Technology Environment's sustainable technology group, for his suggestion, 'Kill-a-Watt'.

The aim is to reduce overall electricity use by three to five per cent across AEA/UK sites during the first year. AEA Technology Environment has piloted the scheme on its buildings and was able to make substantial savings in the first 12 months. They have now been commissioned by AEA Technology property and facilities group to broaden the scope to all sites and businesses.

Overall co-ordinator is Mike Birks, with energy managers appointed for each business as the focus of the campaign and



New photo sensitive lights have been installed outside 81/86, Mount Simpson and Mike Birks are pictured.



Mike Birks and Tony Duffin (who suggested the 'Kill-a-Watt' name) check energy saving advice on the website.

the first point of contact for queries. Awareness will be heightened through the Intranet, articles, posters and notices in strange places (on-the-spot reminders to staff to save energy wherever possible).

"Reducing energy use has dual benefits," says Mike Birks. "First of all, wasted energy contributes to global warming and, secondly, AEA Technology spends a significant amount on electricity and gas. By following simple ideas we can all help AEA Technology save energy and money and we can also do the same at home. Each AEA Technology business has made a commitment to the initiative and has set targets. It's just a question of awareness and putting good intentions into effect."

The potential for energy saving is huge. For example:

- A photocopier left on overnight uses enough energy to make 5300 A4 copies.
- It's a myth that it's cheaper to leave fluorescent lights on. Energy is saved if they are turned off when you leave the room for more than a few minutes.
- Many PCs in AEA Technology are left on overnight or over the weekend. Turning off a PC for any length of time during the day can achieve energy saving of up to 60 per cent. For maximum efficiency, always switch equipment off at the plug when it's not needed.

If you would like to know more about the campaign please visit the AEA Technology

Environment website: www.environment.com/AEA/Environment/html/a2.htm and then click on Kill-a-Watt or contact your energy manager.

EXPLORING HARWELL'S ECOLOGY

In this issue of ECHO the centre pages feature a special ecology supplement that describes the diverse wildlife to be found at Harwell. Readers may wish to keep the publication for reference during the coming year. Further seasonal articles will be published in next issues.

EXPLORING HARWELL'S ECOLOGY

HARWELL INTERNATIONAL BUSINESS CENTRE FOR SCIENCE AND TECHNOLOGY

Clean strategy exists to develop Harwell International Business Centre by decommissioning redundant facilities and constructing new buildings, site infrastructure and amenities. Within this strategy there is scope to respect the diverse wildlife present on the site in various habitats ranging from grassland, wetland and wooded areas to more formal landscapes, such as Outstanding Natural Beauty in the North Westex Downs, within the celebrated Vale of the White Horse. At some 260 hectares or 640 acres, the UKAEA's estate can play a vital role in protecting and encouraging native plant and animal species. With growing interest in our natural and man-made environment, a new approach has been adopted to site management. This is designed to preserve areas of particular richness and to ensure that new landscaping created over many years. Quite apart from the benefit to wildlife this creates a more attractive workplace for everyone at Harwell.

The new approach means that an ecology plan has been integrated into the complex seasonal schedule of grounds work. In the departmental areas, 18 sites of special interest have been identified. While these sites still form a lower and shrub beds and close mown lawns, a better balance is being restored with more informal natural settings to encourage native flora and fauna.

In essence, the plan involves:

- **Grassland** – The site has extensive grassland that requires a carefully planned mowing regime in harmony with the life cycles of wildflowers. Colonies of various orchids across the site and some newly created wildflower meadows require grass-cutting at specific times to help flowering and seeding.
- **Trees** – The large stock of mature trees (last recorded at over 7,000) in both formal and woodland settings will be managed to create the best possible habitat for wildlife.

The main underlying geology is Lower Chalk with several bands of harder ground known as Chilton Stone and Melbourn Rock. Soils have a high content of calcium carbonate and nonacidic clays; these have high pH value – in excess of 7 – and are heavy in consistency. Being rich in mineral nutrients

Deadwood supports insects which, in turn, attract birds. Some standing and felled deadwood will therefore be kept in situ.

Planting new trees will create further habitats and also provide screening and windbreaks.

Hedges – As more hedging disappears in farmland situations, Harwell can provide a vital link in the north-south corridor for migrating and nesting birds. New hedges using native species will be created across the site.

Wetlands – Pond and wetland areas support their own rich diversity of wildlife. Lagoons have been created on the site with regard for the flora and fauna they can support.

Nest boxes – Small mammals living in the grass and scrubland provide food for birds of prey. Good sites for nest boxes have been identified.

Eco-sites – Four specific eco-sites have been earmarked across the site as specific projects, namely the lagoon on the site of Hangar 9, former board grassland, the 'meadow' behind 852/1 and the Duldo Road lagoon. Plans are described on the back page of this brochure.

Settling

The escarpment of the Downs rises immediately to the south and the lowering of the chalk to the north provides a natural barrier to the north. The surrounding countryside is characterised by sweeping arable farmland and restored on Harwell village; orchards sustain the long tradition of local fruit-growing.

Geology

The main underlying geology is Lower Chalk with several bands of harder ground known as Chilton Stone and Melbourn Rock. Soils have a high content of calcium carbonate and nonacidic clays; these have high pH value – in excess of 7 – and are heavy in consistency. Being rich in mineral nutrients

they have been favoured as prime arable land since prehistoric times. At Harwell the constant erosion of the RAF airfield and its subsequent role as the Atomic Energy Research Establishment, further altered the geological make-up. However, this is not entirely to its detriment ecologically. Land has escaped treatment with agro-chemicals allowing many wild plants to colonise parts of the site.



Archaeology

Although there are no ancient monuments, the Icknield Way crosses the northern part of the site. Also the local parish boundaries of Harwell, Chilton and East Hendred meet up within the bounds of the campus. Other old tracks border and cross the estate. These include the old Hungerford road which is still clearly visible as a green track adjacent to the northern boundary of the estate.

Note: Anyone visiting areas described in this article, whether within or outside the fenced area, should note that these areas can be hazardous due to uneven or wet ground, extensive growth (especially in seasons) and similar natural hazards. A number of plant species at Harwell are protected under the Wildlife and Countryside Act 1981. Harwell International Business Centre is a private estate owned by UKAEA. Only authorised access is allowed and particular parts of the site may be further restricted.

A word from BBOVWT...

UKAEA supports the Becks Bucks and Oxon Wildlife Trust (BBOVWT) both as a corporate member and through sponsorship of local projects such as the creation of wetlands at Chelvey Marsh, Nature Reserve. The Trust is delighted to see that UKAEA is managing its site at Harwell to benefit wildlife as well as encouraging staff to take an interest in their surroundings. We hope that the good relationship between our two organisations will continue and that the Trust's endorsement will further aid the ecological projects underway on site.

Chelvey Marsh, Buckinghamshire
Berkshire
Buckinghamshire
Oxfordshire



A new region has been created on the former Hangar 9 site.

EXPLORING HARWELL'S ECOLOGY

1 Meschill plantation

A diverse collection of trees including beech, lime, horse chestnut, ash, hazel, elder and sycamore. The grass swards are quite rich in toadstools.

2 Specimen trees

A remarkable range of specimen and ornamental trees was planted about the site after the war.

3 & 4 Recent tree plantings

Examples of newer, well-wooded tree plantings can be seen in the area between the meschill and the site. Another area is by the southern bus park. Another area is by the southern bus park, another area is by the southern bus park. This comprises young trees rescued by grounds staff from Snelstone Common before construction of the Newbury by-pass.

5 Autumn colour

The foliage of trees creates a dramatic effect during autumn months, for example those on the mound by BS21.

6 & 7 Established tree habitat

A mosaic of mature trees, hedges and orchards can be seen on the old garden plots of the 'pre-war' estates to the north of Hillside (6) and towards Chilton (7). The planned housing development at Chilton provides for the retention of various species of mature trees.

6 & 7 Developing hedges

Garden or boundary hedges have grown into an attractive hedge of hawthorn, privet, hornbeam, willow, ash and beech.

Warm autumn shades can be seen on the 'mound' behind BS21.



A population of cowslips.



8 Blackthorn belt

A substantial belt of suckering blackthorn, providing prime nesting habitat, is spreading in the area outside the boundary fence where it skirts Dido Road.

9 Mixed scrub

A pleasing area of open, and mixed scrub can be seen between the Icknield Way and the water treatment plant, including Hawthorn, wayfaring tree, hazel and field maple, as well as cherry and oak.



Wild flowers of
Hiltscombe



Orange Adonis and
pyramidal orchid.

10 & 11 Diverse hedges

There are substantial hedges along various stretches of the estate boundary, particularly on the western side. An especially rich feature of both archaeological and ecological interest is the double hedge lining the old green track of Hungerford Lane.

12, 13, 14 & 15 Grassland communities

In addition to regrass and creeping bent, other more diverse species occur including fine-leaved fescues, crested dogstail, cocksfoot, Yorkshire fog and golden oat-grass. Herbs include daisy, Yarrow, smooth hawkbit, autumn hawkbit, ribwort plantain, white and red clover, black medick and germander speedwell. Lady's bedstraw can be seen in abundance in one area opposite Down Side.

16 Cowslips

A successful population of cowslips can be seen on a fragment of grassland adorning the boundary fence at the southern tip of the site.

17 Species-rich grassland, butterflies and insects

Where the chalk turf has lain undisturbed and unutilized, grassland of prime ecological importance can be found. The best example is alongside Frome Road where soil was used to cover old runways after the war. As well as upright bromes-grass, classic chalk downland species are present including quaking-grass, crested hair-grass, glaucous sedge, salad burnet, greater knapweed, marjoram, wild basil, self-heal, bird's-foot trefoil and the rare blue fleabane. Pyramidal orchids have also been abundant in past years.

The habitat is ideal for invertebrates including marbled white and small heath butterflies, the rare brown argus, the six-spot burnet moth, many kinds of hoverfly, social and solitary bees and wasps, and yellow and black meadow ants.

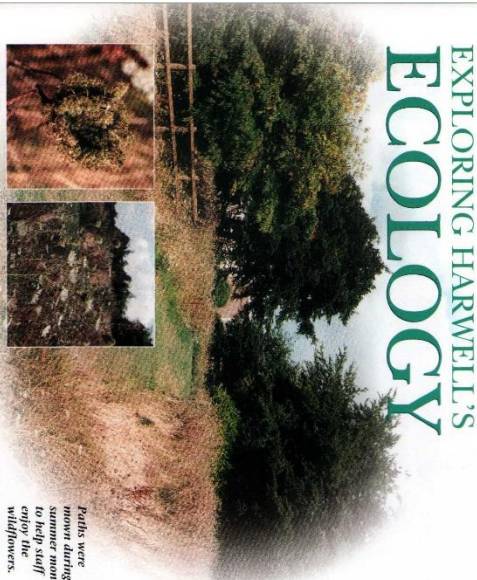
18, 19, 20 Arable flora

Field margins and areas which were previously under cultivation, have a specific collection of flora. Typical examples include blackgrass, field pansy, scabie pimpernel, sow thistles, field bindweed, field's parsley, corn poppy, forget-me-not, cleavers, Persian and wall speedwell. Other rarer species found are knotted hedge parsley and Venus's looking glass.

ECO-SITES (see back page)

- A** The mound by BS21
- B & C** Hangar 9 and Dido Road lagoons
- D** Frome Road runway area

EXPLORING HARWELL'S ECOLOGY



The native woodlands of the wild carrot provide shelter for insects.



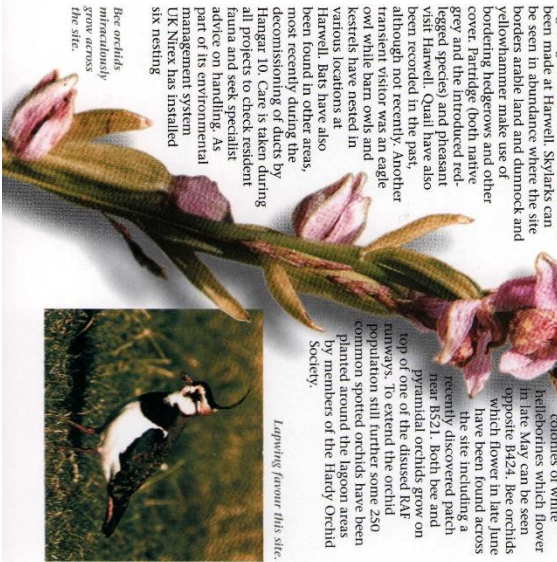
Paths were mown during summer months to help staff to help staff wildflowers.

Wildflower meadows

Wildflower grass mixtures have been used successfully to create diverse grassland. Species include ashle clover, sainfoin, kidney vetch, yellow and white melilots, black medick and wild carrot. More permanent plants include ox-eye daisy, lesser knapweed, yarrow, musk mallow, meadow buttercup, self-heal, marjoram and common St John's-wort. Common blue butterfly and grasshoppers can also be seen. Wild carrot seed-heads attract a variety of insects including ladybirds, earwigs and some spectacularly marked shield-bugs.

Bird-spotting at Harwell

Sightings of more unusual birds have been made at Harwell. Skyhawks can be seen in abundance where the site borders arable land and dunmook and yellowhammer make use of bordering hedgerows and other cover. Partridge (both native and grey) and the introduced red-legged species) and pheasant also visit Harwell. Quail have also been recorded in the past, although not recently. Another unusual bird is the eagle owl. In the past kestrels have nested in various locations at Harwell. Birds have also been found in other areas, most recently during the decommissioning of tanks by Hanger 10. Care is taken during all projects to check resident fauna and seek specialist advice on handling. As part of its environmental management system UK Nirex has installed six nesting



Lepidoptera favour this site.

ECO-SITES

A The mound

Measuring over six acres the 'mound' is believed to date back to RAF days when it was a spoil tip and has since seen the addition of soil excavated when the foundations were dug for new buildings at Harwell. In the late 1950s it was planted with poplar, maple and horse chestnut trees creating a significant landscape feature at the south west end of the site.

In the late 1990s the woodland floor had been over-run with nettles and fallen trees so remedial action was taken to open up glades and lay a path. A seed of fallen tree and ferns and ferns have been planted and invertebrates and others for woodpeckers to use as nesting.

A major planting operation has been completed to attract wildlife including oak and ash trees and dogwood, holly and blackthorn. Woodland wildflowers will complete the scheme and bluebells and violets have already been planted.

B & C The Hanger 9 and Dido Road lagoons

These lagoons were built to balance rainwater surges on the site. The sandrims of the Hanger 9 lagoon have been planted with marsh marigold, yellow flag iris and marginal plants.



The Hanger 9 lagoon balances rainwater surges on site.

A wildflower meadow has been sown around the wider edge of the plot. In addition to butterflies and grasshoppers, the wetlands have attracted mallard and other water birds. Some goldfish and koi carp have been introduced by site occupants. Although not ideal in a wildlife pond, due to their appetite for plants and insect larvae, the fish are not a problem. The Dido Road lagoon has likewise been planted with marginal plants which have established well. It has provided a particular attraction to dragonflies and damselflies.

D Frome Road runway

The BBOWT (see front page) initially helped to identify the ecological richness of this area and ways of maintaining its diversity. For a number of years this diversity has been encouraged by development of the business centre near runway changes in this area, which will be designed, as far as possible, to retain established flora.



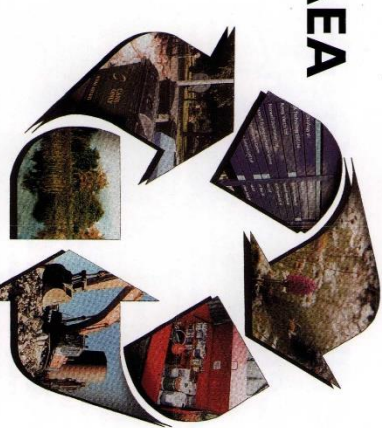
Remedial work has opened up glades and paths across the mound.

ISO 14001 for UKAEA

UKAEA at Harwell has gained certification against ISO 14001, the prestigious environmental management standard. The award of the certificate resulted from two years work involving a wide range of Harwell staff led by Graeme Stonell and Kathy Stark.

Graeme explained what was involved, "The Standard requires an organisation to demonstrate a commitment to three key principles: prevention of pollution, compliance with legislation and continuous improvement in environmental performance. We had therefore to take a comprehensive look at all aspects of our work to identify their potential environmental impact and then work towards improvements."

The auditors focused on the work and operations of UKAEA at Harwell, visiting the site in May and returning for a week



Following certification, the ISO 14001 approach means that UKAEA will be looking year on year to develop working arrangements that benefit the environment.

Anyone wishing to find out more can contact Graeme Stonell at Harwell on ext 3839 or Kathy Stark on ext 2491.

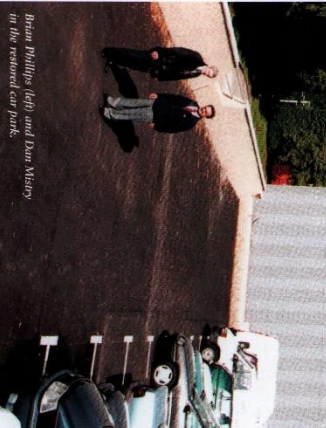
Books for young scientists



Prof. Ron Lawes of RAL presented book prizes to local science students.

Science books on topics as varied as evolution, astronomy and particle physics have been awarded to pupils from 36 schools in Oxfordshire, Berkshire and Hampshire at a special ceremony at Rutherford Appleton Laboratory.

One pupil from each school chosen by their science teacher for their effort and enthusiasm was awarded science books to a value of £30. They were also given a guided tour of some of the world-leading facilities at RAL. Parents and teachers joined them at the award ceremony.



Brian Phillips (left) and Dan Misry in the renewed car park.

Not another car park!

"It's not another car park but a replacement of the old one", said UKAEA project manager Dan Misry, referring to recent work at Harwell's Liquid Effluent Treatment Plant (LETP).

In the mid-1960s six large brick and concrete delay tanks, used to store radioactive liquid wastes, were taken out of service and demolished. Permission was granted to UKAEA for the remaining lightly contaminated rubble to be overlaid with concrete and converted into a car park.

For many years cars had been parked safely on the site but as part of the current programme for removing nuclear liabilities at Harwell it was decided to remove all traces of remaining radioactive material. Dan explained how it was achieved, "The old car park was excavated and resulting low level wastes disposed of to the Drigg landfill site in Cumbria."

Brian Phillips, LETP manager, commented, "We are happy to have our car park back again, albeit at a lower level. There were no difficult problems and the remediation work was completed safely."



Harwell International Business Centre for Science & Technology

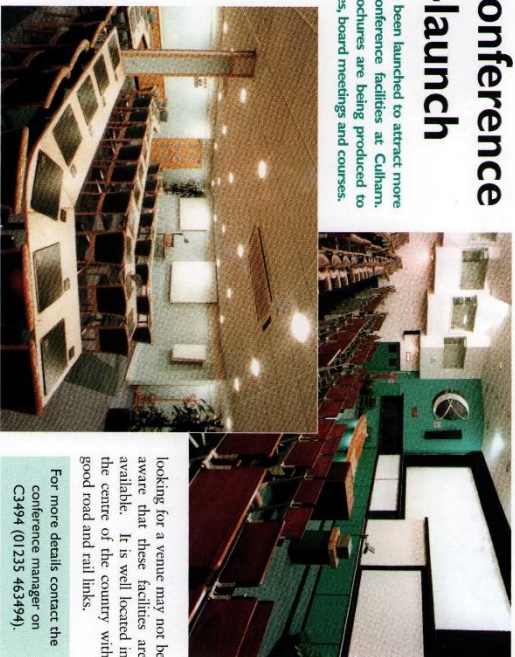
Published by UKAEA, 150 Harwell, Didcot, Oxon OX11 0BA
Contact: Harwell PR Manager on 01235 430909

Culham Conference Centre re-launch

A major new campaign has been launched to attract more businesses to use the conference facilities at Culham. Colourful leaflets and brochures are being produced to promote the venue for conferences, board meetings and courses.

Caroline Rehbbers has been appointed as conference manager. A new simplified pricing structure provides an all-inclusive delegate rate for refreshments throughout the day, standard equipment and free parking. A new range of buffet lunch menus will be launched in January 2001.

Culham Science Centre is able to offer seven purpose-built rooms from the John Adams lecture theatre seating 280 people in tiered theatre style, to smaller rooms for 6-60 delegates. Many local companies



Calendar captures children's ideas

From the huge number of entries received twelve winning posters were picked to feature in a UKAEA safety and health calendar.

As part of European Week for Safety and Health 2000, UKAEA organised a children's picture competition and a dozen winners, ranging in age from five to twelve, will have their work featured in the calendar. The difficult task of judging was carried out by Claire Cross, a professional artist, Eric Jenkins, UKAEA photographer, and Beth Taylor, head of corporate communications. Everyone who entered will receive a small gift as a thank you.

The winners were:

Caitlin Stead (age 5), daughter, Sarah Stead, Harwell
 Eleanor Jackson (11), daughter, Alison Jackson, Harwell
 Sarah J Dunnett (10), daughter, Graeme Dunnett, Dounreay
 Lucy Owen (6), daughter, Guy Owen, Dounreay
 Annabel Milnerston (10), daughter, Paul Milnerston, Winfrith
 Steven Pearce (10), son, Robert Pearce, Culham
 Nicola Farrer (10), daughter, David Farrer (UKAEA/C), Sellafield
 Mark Johnson (8), son, Brian Johnson, Dounreay
 Rachel Pugh (8), niece, Dawn Heath, Winfrith
 Leona Keith (7), niece, Kathleen Mackay, Dounreay
 Jasmin Ward (11), granddaughter, Hedley Ward, Winfrith
 Madeleine Mason (12), daughter, Miriam Mason, Culham



'Turn your back on back pain'

An informal gathering in KI inner-foyer at Culham, prizes were presented for the European week for Safety & Health competition. Before making the presentation Dr Frank Brisson, operations director, spoke about the importance UKAEA places on safety in the workplace. Organisers were grateful for the generous prize sponsorship from companies at Culham Science Centre including Amey, Alstec, UKAEA, Ffronff, The Shop, Morson, Sovereign and Johnson Controls.

Some of the prize-winners are pictured here with Frank Brisson, operations director, and Trevor Hays, Culham division safety supervisor.



Emergency teams exercised

About a hundred staff from several organisations at Harwell were put through their paces at the annual emergency exercise.

Each year the Nuclear Installations Inspectorate (NII) requires UKAEA to demonstrate its ability to handle a nuclear emergency. This year's exercise, code-named Robert, took place during the morning of 2nd November. The scenario involved a vehicle accident, an injured worker and spillage of intermediate level waste.



From left, Jonathan Wright (AELT), Tony Tammy (UKAEA), Jason Clunette (AELT) and Simon Hays (AELT).

Emergency teams raced to the incident area and the Emergency Control Room was named. The klaxons sounded and staff were confined to their buildings for the next two hours. Local residents had previously been informed to ignore the klaxons and carried on normally. The exercise provided a realistic opportunity for the control room team to put into practice the 'Command and Control' training which they had received during the summer.

To add some realism an external PR company was hired to play the roles of members of the public, journalists and a TV film crew. They injected over a hundred telephone calls into the exercise, most of which had to be handled by UKAEA's corporate communications staff. Mary Hills, UKAEA's property manager, was called to give TV interviews at the main gate.

NII observers witnessed the exercise and pronounced it an adequate demonstration.

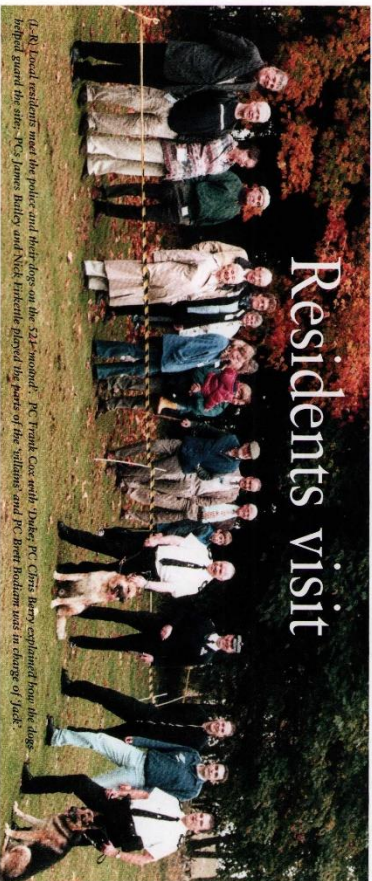


From left, Angela Vincent, Clare Stead and Sue Bradbury of UKAEA's corporate communications team dealing with simulated calls from 'anxious members of the public'.

Level II exercise

Staff are reminded that a Level II site emergency exercise will take place at Harwell on Wednesday 31 January 2001. The klaxons will not be sounded and the majority of staff will be able to continue working normally. However the Emergency Control Room will be manned and a group of staff will travel to the Thames Valley Police HQ at Kellington. Level II exercises are conducted every three years to demonstrate to the Nuclear Installations Inspectorate arrangements for dealing with a Harwell site emergency, having possible off-site repercussions. During the exercise the emergency team will test arrangements for participating with national and county organisations.

Residents visit



A large local residents' group, the police and firefighters on the 52.5 acre site. PC Frank Cox with 'Duke', PC O'Flynn, Barry, captured here, the dog helped guard the site. PC James Bailey and Nick Fitchett played the parts of the villagers and PC Steve Bradburn took in charge of Jack.

Local residents, living close to Harwell's security fence, visited the site during a recent Saturday afternoon to see what goes on the other side of the fence.

UKAEA's head of site, John Wilkins, invited residents of North and South Drives and Seven Road, to see some of the work of UKAEA at Harwell. Some residents, who previously worked at Harwell, were surprised to see how

much the site had changed in the years since they had retired. Others, who had recently moved into the area, were grateful for the opportunity to learn something about Harwell for the first time. It was 'hands on' for the

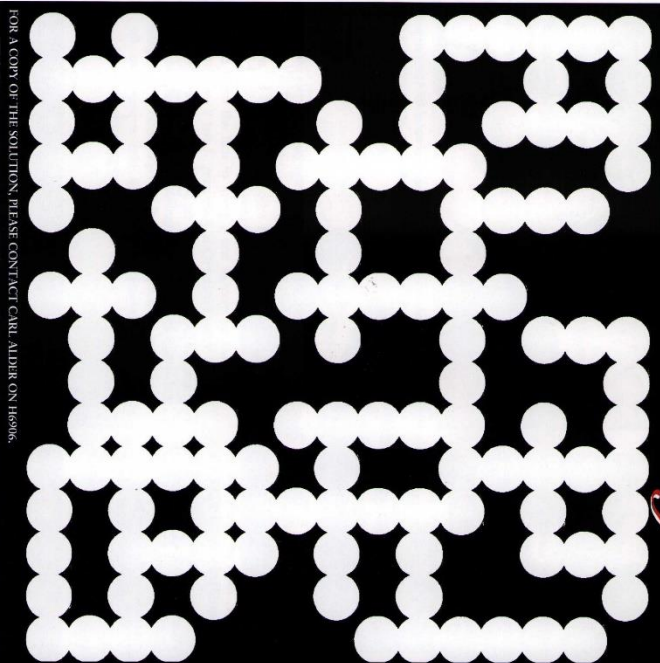
locals as they were able to try the manipulator arms used in the intermediate level waste Vault Store building, under the eye of Gary Preston, who explained how radioactive waste was stored there. Later John Balfour took the visitors to the top of the decommissioned DIDO reactor block. He explained that the reactor and its distinctive 'shell' would remain a Harwell feature until 2040.

Finally, two police dogs gave a lively demonstration of their prowess in tracking down and arresting an intruder at a special show staged for the visitors at the rear of UKAEA's HQ building. Then it was back for the Harwell Training Centre for afternoon tea and cakes.

Christmas Wordfit

Fit the listed words into the grid. One word is left over. Which one?

Word to fit



FOR A COPY OF THE SOLUTION, PLEASE CONTACT CARL ALDER ON 018906.

3 LETTERS

ARC • FIR • ICE
INN • LOG • MUM
NEW • PIE

4 LETTERS

ARCH • BASH
CARD • CASH
CRIB • HALO
LAMP • MALL
NEON • SNOW
WAIF • YULE

5 LETTERS

ANGEL • CAROL
CLAUS • MERRY
MINCE • ROBIN
SANTA

6 LETTERS

CORNER • HO HO HO
INDOOR • RIBBON
TINSEL • TURKEY
YUM-YUM

7 LETTERS

CRACKER
PACKAGE
PRESENT
SHARING

9 LETTERS

CHRISTMAS

Operation Christmas Child

This year Christmas preparations started early for many Cullham staff. Throughout recent months staff have been filling shoeboxes with toys, sweets and toiletries for needy children in Eastern Europe.

Staff joined forces with 5th Abingdon Rainbows and Abingdon Kindergarten to prepare 86 boxes. These were donated to the charity, Samaritan's Pulse, for distribution to homeless children, those who live in orphanages or children whose lives have been torn apart by war or conflict.

The appeal hopes to generate more than last year's total of 600,000 shoeboxes. Many of the gifts are destined to help refugees such as those in Kosovo.



A total of 86 boxes will be prepared for needy children overseas as a gift at Christmas.

"This is a wonderful achievement and shows what can be done when many people work together for the common good. I have been overwhelmed

by everyone's generosity and would like to thank you all for making a difference," said Jenny Gibbard, who has co-ordinated the collection.

Christmas post

Last posting dates are as follows:

- 7 Dec.** - International post (excluding Europe)
 - 14 Dec.** - Europe
 - 18 Dec.** - Second class
 - 20 Dec.** - Parcels
 - 21 Dec.** - First class
- Harwell staff using couriers should contact the following numbers for more details:
- H3203** - Harwell AEA Technology Post Room
 - H5732** - Harwell UKAEA Post Room
 - H2368** - Import/export
 - H4102** - Dispatch
- Cullham staff using couriers should contact:
- C4231** - Cullham AEA Technology Post Room
 - C3263** - Cullham UKAEA Post Room

ECHO exchange

FOR SALE

BOOKS - Older Book of Obedience, £10, James Herriot's 'A Day in the Life', £8. Booklet, 'Down on Penrynshire', gold plated, bound unused gift. Ideal Xmas present. £7.50. All in excellent condition. Tel: 01235

CONNET, Booby & Hawkes Imperial, £1 set soprano Cornet in frosted silver, £250. Contact Gill RAL. Ext. 6743 or evenings 01235 and leave message.

DOUBLE BUGGY, almost new £20 ono. Phone: 01235

ELECTRIC ORGAN, Yamaha HBW Organ, with keyboard and pedal board, including stool. Excellent condition with lovely sounds. £160 ono Tel. Office: 720 2579 or Home after 5pm 01635

KITCHEN UNITS, free to collector: two 1960s streamline kitchen wall units, but glass doors are missing. Both 60cm high, one is 1.75m long the other is 1.95m long. Ring 01865 evenings, or e-mail

SHEETS/JACKET, 3 fitted sheets, 2 x 6 foot, £10 for 3. Buy 2 get 1 free. 1960s streamline kitchen jacket, zippered front, fit 36/40", 100% cotton, excellent condition. Tel: 01235

MINI MAD, do you have any diectast minis no longer required (leather collector models or old toys). If so, please contact Peter QUALITY second-hand furniture, cane, brass, iron, pictures, bric a brac, vases, crochets, services. Tel: 01235

ACCOMMODATION
DIDCOT, Lodgegry Single room, fully furnished to let in family home. £55 per week, includes all bills except telephone. Female non-smoker preferred. Tel: evening 07773

DIDCOT, close to town centre, room to let. Non-smoking pet, low preferred. Use of kitchen, £70 pw excluding TV, telephone/landline. His telephone/landline. His 0780 or 01235

Adverts on this page are free to all staff at Cullham, Harwell, JET, MRC, Nirex, NRPB and RAL. Please submit your ad (30 words maximum) to the editor, Valerie Judd, by email: vljpe@globalnet.co.uk or by fax 01885 331154. They can also be sent to Nick Haines, UKAEA B511, Harwell, Didcot, Oxon OX11 0RA. For next copy deadline see back page.

All ads start from holiday accommodation, with 40 pence for one night. Please include phone number. Telephone prefixes are: C Cullham, H Harwell, JET, MRC, NI Nirex, NRPB, and R Rutherford Appleton Laboratory.



WANTAGE

Large room to let in attractive country cottage 5 miles from Wantage. Own bathroom and television. £65 per week. £250 per month. Ring 01488

WANTAGE, room to let. A large, quiet room with exposed beams with lots of character in town centre house. Rent £70 pw inclusive of bills. 0385 or 01865

DIDCOT, double room to let in 4 bed accom on Lodgegry. Professional non-smoker. £295 p.m. Call Kate 01235

DORCHESTER-ON-THAMES, double room to let, £55.00 per week, including all bills (not telephone) use of kitchen. Non smoker preferred. Call Jane 01865 evenings.

DORCHESTER, six studio flat, 3 miles Cullham lake. Available end December. Parking, local amenities. £415 p.m. Call Sheila 01235 or 07949

GROVE, a room to let in a family house available in the New Year. £250 PCM includes all bills except telephone. Non smoker preferred. Please call 01235 (daytime) or 01235 (evenings/weekends)

LETCOMBE REGIS, near Wantage, room available. 20 mins drive from Harwell. £270 p.m. plus phone, non-smoker only. Phone 01235

OXFORD, double room available for up to 6 months in 3 bedroom house with 5 way. Convenient for bus stops & railway. Non-smoking off road parking. Non-smoking professional to share with one other. £320 p.m. and all bills, except phone. Call 01865 (evenings) or e-mail

STEVEYTON, B&B, spacious double rooms, en-suite or private bathroom. Ample off-road parking. Rates from £28. Sorry, no smoking. Call Helen/Mark 01235 9:00am to 3:00pm.

SUTTON COURTWAY, room to let. Use of all facilities, off road parking, non-smoking pet, week including all bills except phone. Tel Richard on 01235 0790 or 01235

HOLIDAY

FLORIDA Golf and Country Club Luxury Villa, 4 bedrooms, 3 bathrooms, private heated pool on 49 PGA Championship Course. More courses nearby. Minutes from Disney. Flight/car hire also available. Tel 01235

FRENCH ALPS, apartment to rent in St. Germain/Megeve. Close to 3 ski lifts, Skiing/Steading/Mountain Walking. Sleeps up to five - superb views. All facilities incl. TV. Very reasonable rates - contact 01865 (in France 0033)

SOUTH WALES, Gower, holiday cottage, panoramic sea views, sleeps 8/9 in 3 bedrooms, 2 bathrooms, 2 cars, 2 bikes, walks, tennis, petrol/stair chairn. £420 per week. 01380

MOTORS
FOND ORION 1.4LX (Chery), Reg. 96,000 miles. Tax until end of year.

KOHON MATIAS, Help your child's maths. Abingdon centre Caroline (01235) www.kohon-matias.co.uk/. Also centre at Didcot. For details of all Oxfordshire centres, see www.kohon-oxon.co.uk.

SOUND CREW, mobile disco. Quality sound and lights. All ages and occasions professionally undertaken. Competitive rates. Call Jon 01367

Christmas Lunch at Café Ridgeway

CAFÉ RIDGEWAY in B455 at Harwell will be serving a traditional three-course Christmas lunch for £7.50 per person on 13 and 14 December between 12noon and 2pm. As the cafe serves a maximum of 40 people, please pre-book with a deposit of £1.00 per head (refundable with 48 hours notice of cancellation). Please call Dawn on H2598 or fax H2816 for your booking form.

Opening times at Café Ridgeway over the festive period are:
Friday 22 December - breakfast from 7.30-11.30am
Cafe closed from 12noon on 22 December to Tuesday 2 January 2001.