

Bulletin

Weekly news from the UKAEA's Harwell Laboratory

Annual Report 1987-88



△ At the Press Conference, from the left, Mr Mark Baker (Secretary), Mr Charles Chapman (Member for Corporate Development and Finance), Dr Graeme Low (Member for Establishments), Mr John Collier (Chairman), Dr Brian Eyre (Member for Programmes) and Dr John Gittus (Director, Communications and Information).

The UKAEA Report for the year to 31 March 1988 was presented at the International Press Centre, London, on 2 August. The Report, which has been distributed to Divisions, contains a four-page review by the Chairman including a statement of our corporate aims and objectives. In his statement to the press, Mr John Collier included recent information and highlights of his talk and answers to questions are given below.

Over the past thirty years the AEA made the great pioneering contributions to the development of nuclear power in this country. But as nuclear power moves out of the development stage to take its place as a major source of electricity so inevitably there has to be a reduction in the amount of research that the industry requires. As an industry we must get the AGR's working well; we must make the PWR programme the same outstanding success in the UK as it has been in France and we must keep the technology for the fast reactor (the undisputed future for nuclear power) ready and available for when it is needed, as inevitably it will be. If, as the Secretary of State indicates, we may need to deploy fast reactors by 2020 then we cannot afford to wait too long

before we do undertake that next stage—the construction of a commercial prototype.

1987/88 was the second year in which the AEA has operated on the basis of a trading fund. Despite mounting difficulties, turnover was marginally higher at £428M whilst operating profit at £13.1M was also slightly up. However, a figure of £20M has been shown as an exceptional item in this year's accounts to cover staff redundancies and other costs connected with the phasing down of activities at the Springfields Laboratory. After the inclusion of this item the loss for the year was £6.9M.

The Government have recently announced the outcome of their review of the fast reactor programme which is our largest programme involving about 25% of total resources. The PFR at Dounreay has been operating at record levels and the collaboration with our European partners has been making real progress. We are confident that the overall cost of electricity from future series-ordered fast reactors will be broadly comparable with that from current PWRs even at present uranium prices.

From 1 April 1990 there will be drastic phasing down of the Fast Reactor R&D programme to only £10M/year; funding the PFR will cease in 1994 and of the Dounreay reprocessing plant in 1997. I am deeply disappointed at this decision but I am determined to minimise the effects on our staff, on the programme and on the collaboration with our European partners. The full implications of the decision are being worked out. Unless we can secure significant replacement funding it will have a severe effect on our overall operations and will mean additional substantial job losses, perhaps amounting to 1000 to 1500 over the next two to three years.

The single most important event for us this year was the publication of the two White Papers setting out the plans for the privatised electricity supply industry in England and Wales and in Scotland. The proposed arrangements reinforce the Government's commitment to a significant future role for nuclear power in this country but the White Papers said nothing about the R&D needed to maintain our nuclear expertise and underpin our nuclear engineering industry. In the AEA's view this R&D will

need to be provided for **jointly** by Government and industry with the industry contribution possibly coming from a levy on end sales of electricity by the distribution companies or alternatively by subscription. We also believe that the opportunity provided by privatisation should be used to look anew at whether the present arrangements for providing R&D to the industry involving as they do both the CEBG's and the AEA's Laboratories are best suited to serve the more diversified privatised generation industry which is expected to emerge. Other options such as a restructured electricity research institute along the lines of the US Electric Power Research Institute (EPRI) funded by and serving all generation companies are worthy of examination.

The new AEA structure announced last year has settled down well and the process of transferring greater responsibility and accountability to our Management Units is well on target. A review of the work and organisation of Corporate Headquarters just completed will result in much increased delegation to Management Units to manage their affairs and in some support activities being transferred to sites. This will leave a much slimmed down Headquarters, most of which will be in Charles II Street, to deal primarily with policy and policy making. Other reviews of engineering and computing are under way.

The highest priority is attached to reducing our present over-dependence on our three traditional nuclear

customers, the Department of Energy, the Electricity Supply Industry and BNFL, by finding new markets and new customers, both in the UK and overseas. To this end a new Director for Business Development has been appointed. Together with a small team he is spearheading a corporate thrust to open up new business areas, and especially to find opportunities for joint programmes involving several AEA establishments. Our non-nuclear business is now growing at around 10% per year, and while that in itself represents a considerable achievement it is not enough. The new Business Development team has therefore been taking a number of other initiatives together with staff from Management Units. We are entering these non-nuclear markets under a new banner – '**AEA Technology**'.

Now that the pressure of nuclear work is diminishing, all of the AEA skills are becoming available to industry in the UK and overseas. Any company with a technical difficulty should consider consulting the largest R&D organisation in Europe. It may well be that the AEA emerges from this process as a smaller organisation than it is now, but here the possibility that as what we have to offer becomes recognised more and more among the world's engineering, technical and scientific communities, our new banner, **AEA Technology** may find itself in great demand and is vital for our future in Europe.

The latest International Energy Agency figures show that for the seven major

nuclear countries, only Canada has had better value for money from its nuclear research. Some of those early pioneers are still with us – all seven previous Chairmen of the UKAEA are still alive.

In answer to questions the Chairman said:

- the AEA is going to seek alternative funding, particularly for the Fast Reactor programme and there would be discussions with our European partners.
- the AEA is also seeking to obtain a higher tariff for the electricity produced by the Dounreay Fast Reactor as this could fund DFR until the end of the century.
- it is hoped that phasing down of staff numbers at Springfields would be achieved by transfer of staff to other Management Units or voluntary early retirement.
- there would be some job losses at Dounreay in the short term even though PFR would operate until 1994 and the reprocessing plant there until 1997.
- Dounreay hoped to diversify particularly into the oil and space industries; also there was a possibility that the site could be used as a waste repository.
- ETSU worked directly for the Department of Energy who are satisfied that there is no conflict of interest.
- The Department of Energy had accepted financial responsibility for decommissioning AEA facilities that were in existence when the Trading Fund was set up.

Award for HARWELL author

A second HARWELL author has won the John Grimwade Medal awarded by the British Journal of Non-Destructive Testing.



Dr Jill Ogilvy of Theoretical Physics Division has been awarded the medal for her paper "The influence of austenitic weld geometry and manufacture on ultrasonic inspection of welded joints", published in the British Journal of Non-Destructive Testing last year.

This paper reported theoretical studies of the inspectability of different weld structures, and used the computer program RAYTRIM which Jill has developed over the last few years. Jill has worked in the Solid State and Quantum Physics Group of Theoretical Physics Division for 6 years, and has been involved in many different aspects of theoretical modelling of NDT, she is to be presented with her medal in September at the dinner of the 27th annual British Conference on NDT in Portsmouth.

A past winner of the John Grimwade Medal is Mr Derek Pullen of Engineering Division.

Publication date

The next HARWELL Bulletin will be published on 26 August, 1988.



Film Badge Notice

2 Weekly Films: Period 33F (Colour stripe BLACK)
4 Weekly Films: Period 09M (Colour stripe YELLOW)
Commencing Monday 8 August
For week commencing 22 August
2 Weekly Films: Period 35F (Colour stripe NONE)

Temporary Interruption of Telephone Service

On Tuesday 16 August 1988 there may be a temporary interruption of service on a limited number of telephones due to an essential software upgrade. The effect should be minimal but Telecommunications would apologise for any inconvenience caused.

Radiological Incidents

26 June – 30 July

There have been no radiological incidents at HARWELL during the above period.

One for the record

Representatives of the Transport and General Workers (T.G.W.) Union visited HARWELL on 14 July, to meet and photograph some of their members at work in the nuclear industry.

The photographs are to be used as part of an article to appear in the Union's own journal known as the "Record" and is intended to offset some of the criticisms that have been made in the past of the nuclear industry by people from within the Trade Union movement.

The photograph shows, left to right, Peter Arkell (photographer for T.G.W. Record), Paul Pitts (HARWELL T.G.W. Convener), David Izrail (T.G.W. Reading District Officer), Bill Oldem (sub-editor for T.G.W. Record), Ray Loader (HARWELL T.G.W. Shop Steward), Sam Fletcher (HARWELL T.G.W. Shop Steward) and Brian Griffith (HARWELL T.G.W. Shop Steward).



Local Liaison Committee Meeting

The annual meeting of the Local Liaison Committee was held at HARWELL on 27 July.

Among the main topics discussed were environmental and safety issues.

Dr Peter Iredale, Director, chaired the meeting at which it was reported that the Laboratory's radioactive discharges were continuing to fall and were well below authorised limits. Committee members discussed recent independent surveys for cancer clusters and noted the main conclusion that there had been no increase in cancer mortality near nuclear installations in England and Wales during 1959-80.

Mr Harry Shalgosky, Head of Environmental and Medical Sciences Division gave details of a recent Emergency Exercise designed to test HARWELL's response to nuclear incidents. Copies of a leaflet, 'HARWELL Laboratory Emergency Arrangements - Information to Local Residents', were handed to the Committee. Plans for its distribution to 5000 local residents, local Parish, District and County Councils as well as the local Media were discussed.

Other topics included the Nuclear Installations Inspectorate's report on the DIDO and PLUTO reactors at HARWELL, planning applications, prefabricated closures and environmental monitoring by local councils.

Dr Iredale described the range of work and funding for the Laboratory's programme including the recent announcement by the Secretary of State for a cutback on Fast Reactor research. The meeting concluded with a tour of the nuclear waste storage facilities.

Annual discharges report published

The latest report to be issued by HARWELL on radioactive discharges from the Laboratory again shows that all such discharges were below authorised levels.

The report provides information on disposal of radioactive waste from HARWELL and on associated environmental monitoring for the calendar year 1987. In most instances information has also been provided on measurements made in previous years to show the 1987 results in their historical perspective.

In 1985 the National Radiological Protection Board (NRPB) advised that the primary dose limit for members of the public should be 1 mSv per year. In November 1987, NRPB advised further that the dose incurred by a member of the public should not exceed 0.5 mSv as a result of operations on a single site. The precise status of this limit remains unclear. However, it is worth noting that no member of the public is judged to have exceeded this dose as a consequence of discharges made in 1987. Throughout this report, comparisons are made with the 1 mSv dose limit extant in 1987.

Copies of the report have been sent to members of the Harwell Local Liaison Committee, the VVHDC Environmental Health Officer, members of the Parish, District and County Councils in areas close to the Laboratory, local MPs, other local Environmental Health Officers, local libraries and the local Press.

Any requests for copies should be made to Health Physics Service Group, Building 364, Harwell Laboratory, Oxfordshire, OX11 0RA. Telephone (0235) 24141 - Extension 5727 or 4007.

Information on Emergency Arrangements for local residents

In response to greater public interest in matters of safety HARWELL are issuing approximately 5000 information leaflets entitled "Emergency Arrangements for Local Residents".

The leaflet is designed to inform those living in the immediate vicinity of the Laboratory what would happen in the unlikely event of an emergency. Similar leaflets are being issued to the public living nearby other nuclear establishments.

The leaflet defines 'emergency' as an accident involving the release of radioactive or chemically-toxic material, such that it presents a health hazard to those living nearby. It states, "It cannot be emphasised too strongly that the chances of such an accident occurring are very slight indeed. Working practices are carefully regulated and all experiments are carried out under very strict supervision. As a result there have been no serious accidents at Harwell in over 40 years of operation".

Plans for dealing with emergencies have been in existence since the earliest days of the Laboratory in the 1940s. A summary version of these arrangements was made available to the public and an expanded version, 'The Harwell Laboratory Emergency Handbook', published in January 1987, is available in local libraries.

Diary

CODED FOR 1,

SEPT
4 - 9

- *IEE Vacation School*
Industrial digital control systems

St Hilda's College
Oxford
Further information from
The Secretary (LS)CG, IEE
Tel: 01-240 1871, Ext. 330.

7 - 9

- *Uranium Institute*
Thirteenth Annual Symposium

Institution of Electrical Engineers
Savoy Place
London WC2
Enquiries to: Symposium Secretariat
Conference Associates UIS
London. Tel: 01-222 9493

11-15

- *Fourteenth European Conference on*
Optical Communication

Brighton Centre
Brighton
For further details contact:
Conference Services, IEE
Savoy Place, London WC2R OBL
Tel: 01-240 1871 Ext. 222

20-21

- *Society for Underwater Technology*
Disposal of radioactive waste in seabed sediments

St. Catherine's College, Oxford
For further details contact:
Ms. Jean Pritchard
The Society for Underwater Technology
1 Birdcage Walk
London SW1H 9JJ
Tel: 01-222 8658.

21-23

- *BHRA*
Bioreactor Fluid Dynamics – 2nd International Conference

Cambridge
Further information from
Conference Dept., BHRA,
The Fluid Engineering Centre,
Cranfield, Bedford
Tel: (0234) 750422

OCT
11-12

- *Institution of Mechanical Engineers*
Decommissioning of major radioactive facilities – International Conference

Institution of Mechanical Engineers
1 Birdcage Walk
London SW1H 9JJ
Details from Andree Johnson, IMechE
Tel. 01-222 7899.