

# HARWELL bulletin

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## HARWELL'S NUCLEAR WASTE PROJECT — makes national news

The HARWELL project for the safe disposal of radioactive waste was highlighted in national press reports last week following the presentation of the 21st AEA Annual Report at a London press conference.

AEA Chairman Sir John Hill told journalists that increasing effort was being put into research and development programmes. In addition to the waste glassification project being carried out by HARWELL and BNFL, there was a HARWELL programme to examine the possibilities of disposing of this waste in geological strata and ocean deeps.

In his introductory remarks, Sir John said the past year had seen the completion of the reorganisation of the nuclear industry with the setting up of the Nuclear Power Company, with Dr. Franklin appointed Chairman and Chief Executive. It was essential that there should be a close working relationship between the Nuclear Power Company, who would undertake the design and construction and the AEA, who will undertake the associated research and development on their behalf.

The restarting of the country's nuclear programme, together with the decision to maintain the national effort on the fast reactor and the recognition given to the importance of safety and the protection of the environment meant that the Authority had a very substantial workload.

In view of this, the AEA had considered very carefully whether it should stop all the non-nuclear work that was initiated some years ago. **It had decided against this.** Carrying out research work on a customer-contractor relationship had proved to be a very beneficial discipline to a research laboratory. **The AEA would not be seeking to expand this activity: if anything, rather the reverse.**

The construction of the SGHWR reactors for the CEGB at Sizewell and the SSEB at Tomess was now a matter between NPC and the Electricity Boards.

The 100 MW prototype SGHWR at Winfrith was continuing to work well and the proving and development programme was continuing in full association with NPC and BNFL.

The largest of the AEA's programmes continued to be the fast reactor and a major task during the year was bringing the Prototype Fast Reactor into operation and into synchronisation with the grid. This was first achieved in February but leaks in parts of the steam raising plant and difficulties in the turbine oil system had interrupted electricity generation.

Sir John said critics of the fast reactor frequently said that we should instead develop fusion reactors. But this was not an alternative. He said: "Fast reactors are going to be needed in ten or fifteen years' time to prevent the demand for uranium outstripping its availability. Given only continuity of purpose, the present prototypes operating in several countries can be scaled up to full commercial size and the teething troubles that will arise can be ironed out in this period of time."

**Fusion, if it comes at all, must be on a much longer timescale,** he said. It was a very much more difficult technology than fast reactors. "It is right that the world should seek to harness fusion power, but we will only delude ourselves if we regard it as being able to make a significant contribution to energy resources on any practical timescale.

"In view of the long timescale and the costs of launching a new technology we are integrating our programme with our other European partners in Euratom."

New methods of plutonium fuel fabrication were being developed at HARWELL with the objective of minimising the arisings of plutonium contaminated waste and reducing still further the possibility of contamination or exposure to operators.

Sir John concluded that the over-optimism of ten years ago had left more problems and disappointments than the industry would have wished in the last few years. But the coming year would be a very exciting and rewarding one for the whole nuclear industry.

**"We look forward to providing Britain with the clean, safe source of energy it requires. I have always been a believer in the future of nuclear power. I am as optimistic today as I have every been."**

The photograph shows Dr. Marshall with Carol Scott of the Central Office of Information, Peter Moseley (Reuter) and other journalists after the Press Conference.

## ENERGY TECHNOLOGY SUPPORT UNIT

On 7 October, Dr. Jack Butterworth joined ETSU in Building 10.28, where he will have responsibility for general and strategic studies in relation to energy R & D options. He retains his existing telephone number (3261).



## BIG NEW LASER LAB — for Rutherford Laboratory

The Science Research Council is to provide a high power laser and ancillary equipment for use by university and polytechnic research groups. The total cost of the provision and operation of the facilities over the next six years is estimated at £5.7M.

The principal objectives of this basic research programme are to create and study in the laboratory plasmas generated by laser compression; to study non-linear interactions of intense laser radiation with matter; and to develop more efficient and new high power lasers. ('Financial Times' 7 October)

## NEWS — from NUCLEX

During 'British Day' at NUCLEX on Tuesday, the Parliamentary Under-Secretary for Energy, Mr. Alex Eadie, told the press that the Department of Energy's policy of achieving self-sufficiency for Britain by 1980 was "pretty well on course". The Government intended to speed up the nuclear programme which is expected to be worth upwards of £150M to the nuclear industry. Mr. Eadie said it was "very far from the truth" to think that the UK had no pressing need to go nuclear. The forecast 'energy gap' for 1990 of between 50M and 100M tons would have to be met either by non-fossil fuels or by fuel imports. Alternatives, although being carefully examined, seemed unlikely to be able to fill much of the gap more reliably or more economically than nuclear power ('Financial Times', 8 October).

Mr. Eadie also discussed the fate of the Dragon reactor at Winfrith and said the Government had made a proposal to its partners in the project under which the venture would be sustained until June next year, to allow time for further discussion on its funding. A new study indicates that High Temperature Reactors producing heat at only slightly higher temperatures

than existing HTRs like Dragon, could be used for steel-making. This would cut dependence on fossil fuels and the need for the blast furnace stage. Details of the study were presented to a meeting of the European Nuclear Steelmaking Club on Wednesday and are bound to quicken interest in prospects for nuclear steelmaking, since its results indicate that many of the major problems involved in scaling up existing HTRs would be removed. While Dragon itself could not be used directly for development work, there is concern that the research teams should not be disbanded. ('The Times', 8 October)

## ROWSTOCK CROSSROADS — Roadworks on A417

From mid-October the A417 from Rowstock Crossroads to the Acom Garage will be restricted to westbound traffic. Eastbound traffic will use Featherbed Lane and the A34. The roadworks will continue across the A34 at Rowstock.

Until further notice all traffic is advised to avoid the Rowstock Crossroads if possible. Traffic to and from Didcot and the east should use the Hagbourne Hill road past Chilton.

Traffic from HARWELL intending to turn right on the A34 during outmuster must approach the B.328 Gate from Becquerel Avenue. Frome Road must be used if possible. There must be no overtaking on Perimeter Road.

## DIARY OF EVENTS

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Chemistry Division Colloquium	Dr. J. Farren and Dr. B.L. Taylor	'On-line computing applied to analytical instrumentation'	Wednesday 15 October at 9.00 a.m. Large Conf. Room, Bldg. 220.24
Materials Physics Division Seminar	Dr. W.E. Gardner	'The work of the Image Analysis Group'	Thursday 16 October at 11.00 a.m. Conf. Room, Bldg. 521
Nuclear Physics Division Colloquium	Dr. S. Fleming (Oxford Univ.)	'Archaeological dating and authentication'	Thursday 16 October at 3.30 p.m. Conf. Room, Bldg. 8

## EVENTS AT RUTHERFORD LABORATORY

Nimrod Lecture Series	Dr. J. Dias de Deus	'Scaling laws and quark model in high energy strong interactions'	Monday 13 October at 11.30 a.m. Rutherford Lecture Theatre
	R. Marshall (Daresbury)	'Backward photoproduction of $\rho$ and $f$ mesons'	Monday 20 October at 11.30 a.m. Rutherford Lecture Theatre

## OUTSIDE EVENT

Institution of Mechanical Engineers	Dr. R.C. Parker	'Human aspects of R & D organisation'	Tuesday 14 October at 6.00 p.m. IME, 1 Birdcage Walk, London SW1
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## FORTHCOMING CONFERENCES

13th Annual Solid State Physics Conference	University of Manchester	5-7 January 1976
IV International Congress of the International Radiation Protection Association	Paris Convention Centre	24-30 April 1977