

ATOM NEWS

No. 163

January, 1976

NEW YEAR HONOURS FOR FOUR

TWO Authority men receive awards in the Queen's New Year Honours, announced on January 1.

Mr. S. Nuttall, principal process supervisor in the Reactor Fuel Element Laboratories at Springfields, becomes a member of the British Empire Order (MBE). Now 55, Mr. Nuttall has been with the Authority for 21 years.

Mr. W. G. Hill, who retired from Harwell on September 19, is awarded the British Empire Medal.

Known to colleagues as "Bunker", Mr. Hill served for 23 years in the Navy and another 23 at Harwell, most recently as supervisor of administrative services. He is now living in Sussex.

Mr. H. E. Dibben, deputy general manager for British Nuclear Fuels Limited at Springfields, becomes an Officer of the British Empire Order (OBE). He is working temporarily at Windscale.

And Mr. S. A. Ghalib, who was managing director of The Nuclear Power Group and is now a consultant to the South of Scotland Electricity Board, becomes a Commander of the British Empire Order (CBE).

Harwell director

DR. LEWIS ROBERTS has been appointed director of Harwell, where he has been programme director of energy projects.

Dr. Roberts, 54 this month, is an Oxford chemistry graduate who joined in wartime nuclear work and became involved in the scientific beginnings of almost all the major atomic projects, including diffusion plant, chemical separation plant, graphite studies and work on uranium oxide for reactor fuel elements.

In 1954-55 he was a Commonwealth Fund Fellow at the University of California, USA, studying physical chemistry.

A group leader and a branch head in Harwell's Chemistry Division, he became deputy head of the division and joined the Research Group management board in 1967.

The following year he was appointed Harwell's programme director and he has recently been working on the research and development programmes

of the Department of Energy.

He has controlled the work of the Marine Applied Technology Support Unit and the Energy Technology Support Unit at Harwell and been a member of the Offshore Technology Advisory Board.



DR. ROBERTS
Harwell director

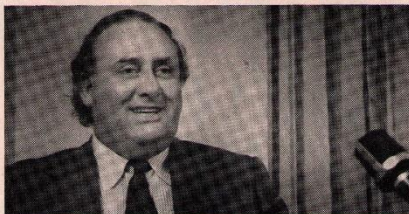
DIED AS HE TRIED TO HELP

HARWELL electronics expert Peter Gibbons collapsed and died last month while he was trying to save the lives of drivers on an icy road.

Peter, who was 40, was driving from his Wantage home towards Oxford with his wife when they reached the scene of an accident.

The road was covered in ice and Peter, worried about the safety of drivers approaching over a hump-backed bridge, went to the top of the hump to warn them. He collapsed and failed to respond to efforts to revive him.

NEW APPOINTMENT FOR DR MARSHALL



DR. MARSHALL . . . deputy chairman

DR. WALTER MARSHALL, who has been an Authority Member since 1972, has been appointed a deputy chairman of the Authority.

The appointment was announced last month by Tony Benn, Secretary of State for Energy.

Dr. Marshall, who is 43, keeps his part-time appointment as chief scientist to the Department of Energy and as deputy chairman will have special responsibility for scientific and technical policy throughout the Authority.

His appointment as a Member of the Authority has been extended for five years to December, 1980.

Dr. Marshall, an honours graduate in mathematical physics at Birmingham, joined Harwell in 1954 and spent two years in America before being appointed head of Harwell's Theoretical Physics Division in 1960.

Four years later he joined the Research Group management board and in the same year was awarded the Maxwell medal for outstanding contributions to theoretical physics.

In March, 1966, Dr. Marshall became deputy director of Harwell and a year later of the Authority's Research Group.

He has been director of Harwell since 1968 and of

the Research Group since 1969.

Dr. Marshall was appointed chief scientist to the Department of Energy in 1974 and is chairman of the Advisory Council on Research and Development for fuel and power.

He was elected a Fellow of the Royal Society in 1971 and two years later was made a Commander of the British Empire Order (CBE) in the New Year Honours.

Last year he received the Glazebrook medal of the Institute of Physics for his direction of research and development in the Authority.

HARWELL TO HELP KUWAIT

THE Authority has agreed in principle to help Kuwait set up a nuclear energy industry and to train Kuwaiti scientists at Harwell.

Kuwait expects to have a nuclear power station in the 1980s.

Authority Deputy Chairman Dr. Walter Marshall told reporters that the first Kuwaiti scientists are expected at Harwell early this year.

The Authority already has an agreement with Iran to act as a consultant on nuclear power and to train Iranian engineers and scientists.

Iran has said she might be interested in a steam generating heavy water reactor to work alongside pressurised water reactors already on order from Germany and France.

FIRST FOR CHRISTMAS

CHRISTMAS festivities at Culham included a carol concert, which was led by the site's own brass ensemble.

The band had never played as a group before and the programme included favourite carols, readings and solos.

About 200 people attended and the collection for the site welfare fund raised almost £11.

ENGINEERS WARN OF THREAT TO STANDARDS

'It's got to be nuclear power'

EUROPEAN electrical engineers forecast a shortage of energy if Western Europe does not press on with nuclear power development.

Failure to proceed could dramatically affect the future pattern of life, they warn.

They forecast unemployment, a reduction in living standards and a reduced rate of improvement in less developed countries.

Their statement follows a meeting in Milan of EUREL, the convention of national societies of electrical engineers of Western Europe, attended by representatives of the Institution of Electrical Engineers and the Institution of Radio and Electronic Engineers from Britain.

In its statement EUREL says it considers it to be its duty to call attention to the consequences that must be faced if the development of energy generation suffers undue delay.

"The availability of energy from its traditional sources—water, coal, oil and gas—is endangered by natural limits or by economic or political circumstances. No increase in the efficiency of the use of energy can be sufficient to provide for future requirements.

Only one

"Other potential sources of energy such as the sun, the wind, tides or terrestrial heat cannot be expected to make a substantial contribution to the world's needs for many years to come.

"The only source at present available for extensive exploitation is nuclear power," says the statement.

"EUREL considers that failure to proceed with the installation of nuclear power plants will lead to a shortage of available energy that will have a drastic effect upon the future pattern of life.

"It will result in the unemployment of large numbers of workers and a reduction in the availability of food,

water, heating, transportation and other features of life to which more highly developed countries have been accustomed, and it will drastically reduce the rate of improvement of the standard of living in the less developed countries.

"Reports from many countries show that one of the greatest obstacles to the installation of nuclear power plants is the inadequate information of public opinion, which is rightly concerned with the potential danger of these plants.

Safety

"Engineers responsible for the development and construction of nuclear plants must continue to be acutely conscious of the need to protect the safety of the operators of these installations and the world population as a whole from the hazard of the release of radioactive materials, and of the need to reduce further risks, which are already extremely low.

"EUREL considers it is high time that questions in regard to the danger of nuclear plants should be recognised to have been authoritatively answered, and that the risk should be assessed in relation to the consequences which must be faced if nuclear energy is not used.

"EUREL sees the need for the world community to face now the choice between accepting the residual risk in the development of nuclear energy and accepting the economic and social consequences of a serious shortage of available energy in the foreseeable future.

MANAGEMENT TRAINING HEAD GOES

PAUL SMITH, head of management training at Harwell's Education and Training Centre for the past seven years, retired last month.

Mr. Smith joined Harwell in 1957 after being with the National Coal Board, where he had been Secretary of one of the Yorkshire areas.

He joined Harwell as head of organisation and methods and was later put in charge of reprographic and secretarial services.

Before moving on to his post in the Education and Training Centre Mr. Smith was responsible for courses offered in preparation for retirement.

● The 'men of energy' get together: page 4

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MANUFACTURING JEWELLER

MUCH MORE HELP FOR THOSE IN NEED

THE Authority's non-industrial benevolent fund helped more people and, on average, spent more on each one in 1974-75 than it has done before, the annual meeting of the Authority Whitley Council was told last month.

In its annual report the fund says that 81 people were receiving regular

allowances at the end of June, compared with 68 a year earlier.

Grants to meet special needs were made to 42 people—nearly twice as many as the year before—and money was also given to help people buy food and pay for holidays and Christmas presents.

"The fund increased the amounts for all these grants," says the report.

All Authority staff or their dependants who have very small Authority pensions received a letter during the year reminding them that the fund existed and inviting them to contact their local representative.

It is always nice to be treated as an individual and not just a number.

"The response resulted in 21 new cases by the end of June and the final total is likely to be about 30," says the report.

Others who contacted their representatives were given advice about such things as rent and rate rebates if they did not already know about them.

"Many people expressed their appreciation of the contact, even though not in financial need," says the report.

The idea of contacting people with small pensions came from one of the fund's local representatives.

"To publicise the fund to those who might at some time need help, a letter is now issued to staff at the time of retirement reminding them to get in touch with the fund if they should be in need in the future," says the report.

The fund appealed in April for new and increased subscriptions in a letter sent to each member of the non-industrial staff of the Authority and British Nuclear Fuels Limited. A similar appeal was made at the Radiochemical Centre at Amersham in July.

The conditions for a successful fund are: 1. A large number of subscribers. 2. A small number of large contributors. 3. A small number of large contributors.

"The response from existing subscribers, especially in covenanted subscriptions, has exceeded expectations and is a great encouragement," the report says.

More than 500 new covenants were signed during the year so that the fund can claim back the income tax which subscribers have paid on their subscriptions.

Tax refunds brought the fund £2,663 during the year with the prospect of more to come.

"The number of new subscribers—514 at the time of writing—is perhaps somewhat disappointing, especially in view of the increase over the year of about 900 staff in the establishments involved," says the report.

"Over 6,000 non-industrial employees of the Authority and associated companies are not yet subscribers to the fund and further efforts to improve the position are clearly needed."

the present. It will come in very useful for financing a trip to visit the country, bringing back the Christmas gifts.

But the fund benefits from the appeal by more than £5,000 a year.

There were 8,853 subscribers to the fund on June 30—53 per cent. of the non-industrial staff of the Authority, BNFL and the Radiochemical Centre.

During the year the fund received donations of £100 from the Risley Refreshment Club, £7.05 from a raffle held at Harwell, £32 from fees donated by people who earned them and £2 which was found at Harwell and not claimed.

Another fee of £100 was given in October.

"We deeply appreciate contributions of this sort," said the secretary, Miss Vera Wilkin.

CLEARING UP THE NUCLEAR LION'S DEN

THE lion of nuclear fission has been tamed; it remains to clear up what he leaves in his cage. That was the theme of a lecture by Dr. Ned Franklin to members of the Institution of Nuclear Engineers.

Dr. Franklin, now managing director of the Nuclear Power Company and a part-time Member of the Authority, was managing director of British Nuclear Fuels Limited until earlier this year.

Uranium and the products which follow its radioactive decay are widespread in nature, he said, and were even more plentiful in the past.

Fuel manufacturing merely concentrates radioactive materials which already exist but does not increase their total quantity.

Operating and eventually shutting down nuclear reactors leads to a large accumulation of radioactivity in the core and surrounding structures, but this lasts as a risk for only 50 to 100 years and is unlikely to be troublesome, Dr. Franklin claimed.

HINTON WILL FOLLOW DUKE

LORD HINTON, who was managing director of the Authority's old Industrial Group from 1954 to 1957, is to succeed the Duke of Edinburgh next month as president of the Council of Engineering Institutions.

Prince Philip, founder president, has held the post for ten years.

Lord Hinton, who is 74, is expected to join in discussions now going on which are aimed at setting up a Royal Society of Engineers.

No problem

Most new radioactivity comes from reprocessing fuel that has been used.

Each ton of fuel produces a few pounds of solid waste, mainly cladding materials that are slightly contaminated. Storing this presents no difficulties, Dr. Franklin said.

The products of fission itself present by far the greatest potential problem. Special attention is being

CROSSWORD CORNER

ACROSS

- 1 Keep from retina distortion. (6)
- 4 Inclines to run into a vessel. (6)
- 9 Unusual deviation by a policeman? (7)
- 10 Get together for expulsion? (4, 3)
- 11 It produces more than it consumes. (7, 7)
- 13 It's best to have a meal with Army craftsmen. (7)
- 15 Foreign chap with a song in him. (7)
- 16 Look closely at the setting of the pins, etc. (7)
- 18 Point where an odour is coming into being. (7)
- 20 Part of the nuclear stores where neutrons can be detected? (7, 7)
- 23 Sweets don't amount to much. (7, 7)
- 24 Current Greek drama lady? (7)
- 25 Local tax system for a Naval person. (6)
- 26 Suffering the break-up of the old era. (6)

Name.....

Address.....

- 1 Go through with a gun. (5)
- 2 Put your foot down to keep it going. (7)
- 3 Where people may meet at cross-purposes. (13)
- 5 All I cry perhaps in song form. (7)
- 6 Original expert to work a machine. (9)
- 7 Where the building is something to see, they say. (4)
- 8 Inclined to brag about atomic power? (9)
- 9 Uncle Mo rather put out, being reactionary. (13)
- 12 Religion is all one to him. (9)
- 14 Being hopeless he misses tip that's around. (9)
- 17 Slip one round beyond the delta. (7)
- 19 Press to show some affection. (7)
- 21 It's grand perhaps, when you've got it all together. (5)
- 22 Performer in a light role. (4)

DECEMBER SOLUTION

Across: 1 Induced, 5 Limited, 9 Essen, 10 Sub-stance, 11 A-mount, 12 Brad-well, 14 Tudor, 15 Automatic, 18 Coal-miner, 20 Latin, 22 Activity, 24 Mirror, 26 Chas-tised, 27 Oriel, 28 Ta-TT-les, 29 Tuesday.

Down: 1 Inelastic, 2 Disco-rd, 3 Co-nun-drum, 4 Dose, 5 Lab-or-a-Tory, 6 Mu-te-d, 7 Tan-gent, 8 D-well, 13 Magnetises, 16 Multi-Pole, 17 Cent-rally, 19 Attract, 21 Tar-ried, 22 A-Scot, 23 Vital, 25 Adit.

Book token for T. Taylor, of Windscale. Entries this month to Crossword, Room 110, London Office, by January 29. First correct solution opened wins.

Dear Sir...

THERE exists an attitude of mind which seems common to many motorists today: that cyclists should give way at all times, or else.

The "or else" means "if you don't get out of my way, I'll run you down."

This attitude is brought home to you when you execute a manoeuvre which impedes the progress of the all-powerful motorist. It is your fault that he didn't react to a signal given in good time. Or that he appeared on the scene when you are in the middle of turning right.

This all-powerful being also has X-ray vision which enables him to see through corners and comes into practice mainly on narrow, twisting roads when he overtakes you on a blind bend with the attitude "let the devil take the hindmost."

Competitor

The average motorist is also a competitor. You notice this as you pedal along. You can hear the hard acceleration as he races to get his bonnet in front before a road junction, or before a narrow section on the road. It doesn't matter if the full car length is not passed, he knows you will give way or suffer injury.

But as a competitor he is a poor sportsman. Impeded by road works or slow traffic, today's motorist hates to be

When the rule of the road is give way, or else

overtaken by more manoeuvrable traffic. To combat this affront, motorists react collectively, driving alternately on the right and on the left of the carriageway to prevent the safe overtaking by the cyclist.

Today's motorist is also a hunter, waiting patiently in side roads until he can see the whites of a cyclist's eyes between the headlamps before

pouncing with fearful intent.

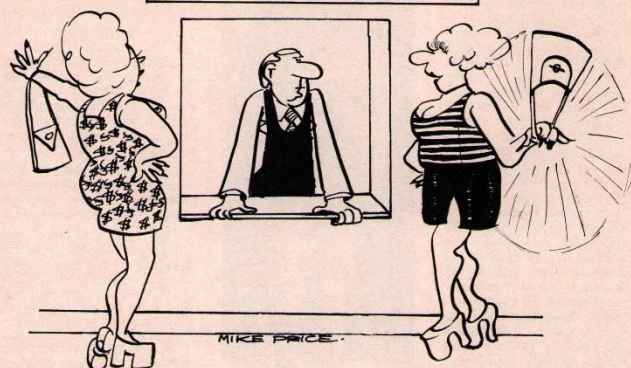
Fortunately, there are some motorists who recognise that the rules of the road apply to all road users. They slow down and give way to the rider turning right, hang back until they see the road ahead is clear or wait for the cyclist to clear the road junction. Indeed, there are those motorists who actually ack-

nowledge the signals from cyclists, particularly when failure to react would have caused them an accident.

My only consoling thought for the other type is that his attitude towards cyclists is just the same towards other motorists, but what consolation is that when you're dead?—G. McCarten, Windscale.

MIKE PRICE...

APPRECIATION COURSE ON PRODUCTIVITY TECHNIQUES.



Two flew 11,000 miles to a party

WHEN an ex-Harwell man and his wife celebrated their diamond wedding anniversary their son-in-law, who used to work at Harwell but now lives in Australia, travelled to Britain to join in the family party.

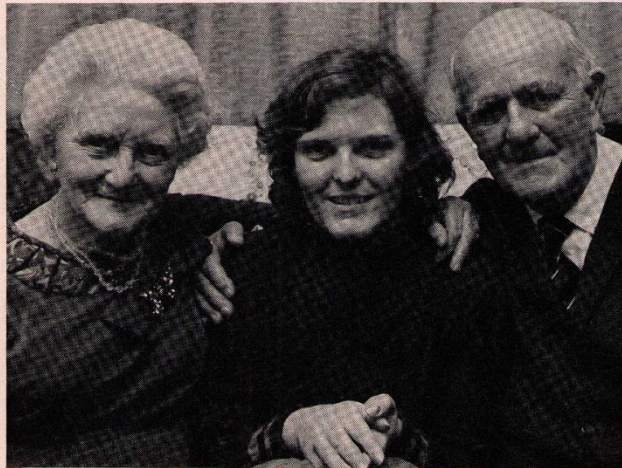
The couple are Alfred Moylan, aged 80, and his 78-year-old wife Beatrice. They both live in Didcot, Oxon.

Their five children, 16 grandchildren and six great-grandchildren were there, too.

Included in the gathering were Mr. and Mrs. Moylan's only daughter, Mrs. Nina Badger, and her husband, Jim, who came 11,000 miles to Britain from Melbourne specially for the celebrations.

Jim worked as a painter at Harwell for 2½ years until he emigrated to Australia in 1957.

With them came their 26-year-old daughter, Marion.



BEATRICE and Alfred Moylan with their Australian-born granddaughter Marion.

In France

Just after the couple were married in Chatham, Kent, Mr. Moylan joined the Royal Army Ordnance Corps and served in France during the 1914-18 war. He remained there after the war as a civilian to help break down ammunition.

When he returned to Britain two years later he re-enlisted with the R.A.F. and served in many Eastern countries. He left the R.A.F. in 1939 but worked on as a civilian and was transferred to R.A.F. Milton, near Harwell, where he was a stores foreman until 1956.

Founder

Then he joined the Stores Department at Harwell until he retired six years ago.

Mr. Moylan is a keen supporter of the Royal Antidivulian Order of Buffaloes, and is one of the founder members and chairman of the Didcot and District Old Time Dancing Club. He was also a football referee.

Mrs. Moylan, whose home town is Hounslow, Middlesex, belongs to the Order of Ladies Glade—the women's section of the RAOB—and is the founder member of the Astral Glade in Didcot.

She has travelled with her husband and has also been to Melbourne to visit her daughter.

WRONG RANK

JOHN O'SULLIVAN, who retires from the Public Relations Branch in the Authority's London Office this month, served for 37 years in the Royal Army Ordnance Corps, for 22 of them as a commissioned officer.

On retirement he was given the rank of lieutenant colonel.

Because of a misunderstanding, John was described in the December *Atom News* as an ex-major.

In 36 years Betty has never met the ghost

THERE is one regret that Mrs. Millicent 'Betty' Russell has . . . she never met the ghost which is supposed to haunt the house where she has worked for the past 36 years.

Mrs. Russell, 69, is the wife of an ex-Harwell man, Albert Russell, who was a mate in the Building Section from 1948 until September.

Now Mrs. Russell will not realise her ambition to see the ghost for she has retired from her job as cleaner at Milton Hill House, Milton, Oxon.

She explained that a previous owner of the house, Sir Mortimer Singer, was reputed to haunt the building. "But I have never seen him even when I was alone in this house for six years when it was empty," she said. "I am really very disappointed."

"I would have liked to have seen the ghost. I could have done with its company, especially during those six years."

Taken over

It was in 1939 that Mrs. Russell began work as a cleaner at Milton Hill House, which is near Harwell, when it was owned by the Anglo-American Oil Company. Five years ago, after the house had remained empty for six years, it was taken over by its present owners, W. H. Smith and Son Ltd., as a training centre for staff.

In her retirement, Mrs. Russell said she will devote more time to the many voluntary organisations she belongs to. She and her husband live in St. Michael's Way, Stevenon, Oxon.

It's a record

POPPY Day collections at Risley and Culcheth reached a record total of £156.



THE Authority has set up a training school at Winfrith to organise courses on the steam generating heavy water reactor. The first is likely to be in March.

As well as SGHWR courses, the school will provide general reactor technology training for graduates who join the Authority.

Similar courses are already provided at the Fast Reactor Training Centre at Dounreay.

The SGHWR courses are primarily intended for professional staff from the design and construction industry, the British electricity boards and other organisations concerned

with nuclear power and safety.

IN THE PICTURE: Mr. R. J. Symes (left), manager of the school, welcomes Mr. P. McLaren, manager of the Fast Reactor Training School at Dounreay, at the entrance of the new Winfrith school. Second from the left is Mr. D. R. Lemming, who is Mr. Symes' deputy, and on the far right is Mr. McLaren's deputy, Mr. A. W. Smith.

Crowned beds?

ROYAL Illnesses was the title of Culham's Christmas lecture. The talk was given by Professor H. Ellis, of the Westminster Hospital Surgical Unit.

BRITAIN AND RUSSIA START MORE TALKS

DETAILS of how Britain and Russia can co-operate in new parts of their nuclear work are likely to be discussed in London this year. A Russian delegation is expected to visit Britain.

Already a protocol has been signed in Russia by Mr. J. C. C. Stewart, chairman of the council of the British Nuclear Forum.

It refers to reactor design and development, reactor equipment manufacture and construction techniques for reactor installations as possible subjects for co-operation.

Mr. Stewart's team included British industrialists as well as David Hicks of Reactor Group's Risley Headquarters, and other atomic energy specialists. They were guests of the Russian Minister of Power Engineering and Electrification.

Mr. Stewart, former Authority Member for Reactors, said afterwards that signing the draft agreement marked a new step forward in a key field of world progress.

proposals they had made earlier."

Although British and Russian nuclear power stations were different, there was still an overlap, "a common area of technology employed in both systems," the Prime Minister told the Russo-British Chamber of Trade.

Asked last month about the prospect of Britain and Russia joining in an atomic energy project, Lord Gregson, managing director of Fairey Engineering Ltd, who was a member of Mr. Stewart's party, said the main problem was to develop reliable commercial fast breeder reactors.

The Authority has its own agreement with the Soviet State Committee on Atomic Energy. Two visits each way by experts from the two organisations were made last year to discuss fast reactors.

Top meeting

The visit to Russia follows discussions in Moscow earlier last year between Prime Minister Harold Wilson and top Russian leaders.

Mr. Wilson said he had put to Russian leaders "positive proposals" for co-operation and "the Soviet Government at highest level welcomed this response to

16 years typing

FOR 16 years a typist in the Authority's London Office, Mrs. Catherine Whelan retires this month.

SCHOOL OPENS AT WINFRITH

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Freda's family pick up her gifts on holidays in Wales



MRS. FREDA DAVIES, the wife of a Harwell man, is using her art to reflect the seasonal mood . . . she painted robins with a Christmas theme on slate for a friend.

Mrs. Davies' husband, Christopher, works in Harwell's Electronic Support Division as a craftsman. The couple live with their son in Hillside on Harwell's housing estate.

Pictures by painting or scratching on slate are not new.

They have been produced in Wales for a long time now. In fact, it was whilst she was in Wales that Mrs. Davies saw the paintings and thought she could do better herself.

As a result Mrs. Davies has so far produced over 30 paintings of birds and animals. In most cases she uses live animal models for her paintings and most of them are family pets.

She has already painted most of the family's six finches, three budgerigars, 16 rodents, three cats and a dog, as well as wild birds around their home.

At first, Mrs. Davies said, she was using the wrong type of paint until someone advised her to try acrylic paints. She says she at first used black and white paints but now she also uses green, red and yellow.

The slate which Mrs. Davies uses comes from Wales. Her family gathers it whilst on holiday.

£10,000 aid from weekly pennies

IN little more than three years the Capenhurst Medical and Research Fund has given more than £10,000 to medical projects in the Chester and Merseyside area.

The fund raises money by deducting 10p a week from members' pay at British Nuclear Fuels Limited's Capenhurst Works.

Half the money goes in prizes in a weekly draw. The other half goes to buy things like the most recent gift—a new lightweight specially designed portable anaesthetic machine for use by the "flying squad" in the accident unit of Chester Royal Infirmary.

At the same presentation the infirmary also received an arthroscope—an instrument which uses fibre optics to look inside joints.

With 1,700 members, the fund is supported by eight-tenths of Capenhurst employees. It produces more than £3,000 a year for medical purposes.

Chairman elected president

AUTHORITY chairman Sir John Hill has been elected president of the Shareholders Assembly of United Reprocessors G.B.H. British Nuclear Fuels Limited's managing director Con All-day was appointed deputy president.

Shares in United Reprocessors are split equally between BNFL, the French Atomic Energy Commission and the German firm KEWA.

500 HAVE TAKEN SEAL COURSES

SEALING bearings and moving parts of machinery is one of the most important problems encountered by industrial companies, says the National Centre of Tribology at Risley.

"The seriousness of the problem is evident by the attendance, to date, of over 500 delegates from all sections of British industry at courses on dynamic seals organised by the centre," it says.

"The application of good tribological principles to seals can bring enormous cost savings on maintenance, cleaning and replacement."

March date

The next course is being held at Risley on March 2 when the lecturers will be Dr. P. D. Swales, lecturer in fluid dynamics at the University of Leeds; Mr. K. R. V. Lock, chief engineer of Crane Packing Limited; Dr. E. T. Jagger, former chief engineer of George Angus and Company, and Mr. J. A. Stephens, technical director of Bestobell Seals Limited.

JOHN GARNISH NEEDS TO KNOW

Who'll probe deep heat?

A HARWELL scientist is one of three experts appointed to represent Britain on a top-level European committee looking into the prospects for geothermal energy—heat from deep underground.

He is Dr. John Garnish, a member of the Energy Technology Support Unit set up at Harwell 18 months ago to advise the Government on energy policy for the future.

Dr. Garnish, aged 34, now has the task of finding organisations or individuals in Britain who are willing to carry out geothermal contract work between now and 1979.

It includes preparing data, surveying, devising improved techniques and training specialists.

To Brussels

The European Economic Commission will spend over £5 million on the work.

As the Department of Energy's representative on the EEC's advisory committee on programme management for geothermal energy, Dr. Garnish expects to travel to Brussels three or four

times a year. His two British colleagues will represent industry and the Institute of Geological Sciences.

The Energy Technology Support Unit at Harwell is particularly concerned with the prospects for unconventional forms of energy.

A report on the prospects for geothermal power in Britain, for which Dr. Garnish is largely responsible, is expected to be published early this year. Reports on solar energy and wind power are expected to follow shortly after.

WINDSCALE PAIR LEAD APPEAL

TWO men from the engineering development staff of British Nuclear Fuels Limited at Windscale are leading an appeal for funds and members by the Cumbria Naturalists' Trust, which was formerly the Lake District Naturalists' Trust.

They are Edmund Strong, a member of the trust council who is chairman of the appeals committee, and Robin Luxmoore, who is helping to organise fund-raising.

The trust has just over 2,000 members, owns or leases 20 pieces of land that it manages as preserves and is anxious to raise more money and increase its membership to extend its work.

THE 'MEN OF ENERGY' GET TOGETHER



WHEN the Research Group Retirement Fellowship held their annual dinner and dance in Didcot, Oxon, the guests of honour were the Mayor and Mayoress of Didcot, Councillor Ted Williams and Mrs. Williams, who are both Authority employees. The fellowship takes in Harwell, Culham, the Science Research Council's Rutherford Laboratory and the Medical Research Council's Harwell unit. About 100 of the 340

members attended the function, said Arthur Burgess, its chairman.

When he proposed the toast to the Fellowship, Mr. Williams, who is a senior foreman in Harwell's building section, congratulated the fellowship on its "energy and organisation."

"I know there are regular newsletters and meetings, and a constant contact with members not only at home but also abroad," he said.

"I also know that Harwell still continues its interest in you by helping in many ways."

Among the guests at the function were Mr. and Mrs. Paul Smith. Mr. Smith, a vice-chairman of the Fellowship, is in the Education and Training Department at Harwell.

He is retiring and will no longer hold his fellowship office, so the fellowship presented him with a world atlas. There was a

bouquet for Mrs. Smith.

A bouquet was also presented to Mrs. Williams, who is a clerical officer in the Wages and Salaries Section at Harwell.

IN THE PICTURE: Arthur Burgess welcomes the Mayor of Didcot. The others in the picture are (left to right) Mrs. Smith, Mr. Smith and Mr. and Mrs. Michael Fenelon. Mr. Fenelon is chief inspector in the Authority Constabulary at Harwell.

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BNFL tells employees— 'WE WELCOME SAFETY DEBATE'

BRITISH Nuclear Fuels Limited welcomes the prospect of a public debate on nuclear safety "as long as it is informed and all the relevant issues are considered," says a leading article in last month's *BNFL News*.

"We have nothing to fear from rational discussion, nothing to hide and nothing to be ashamed of," says the unsigned article. "Indeed, there is much of which we can be proud."

Badminton pair wed



TWO Harwell employees, Audrey Taylor and Richard Willis married at the Church of St. Mary the Virgin at Shaw-cum-Donington, Berks.

Audrey works in the Wages and Salaries Branch at Harwell and Richard in the Engineering Division there.

Both play badminton for the Wanderers Badminton Club.

The two bridesmaids were Sarah Taylor and Samantha Willis, sisters of the bride and bridegroom.

DES SPENT 30 YEARS AT HARWELL

DES KENT, who had worked at Harwell since 1946, has died aged 54.

He was a member of the Electrical Engineering and Ancillary Plant Group at the Science Research Council's Rutherford Laboratory.

His first job at Harwell was with a contractor who was helping to set up the Atomic Energy Research Establishment. He joined the staff in 1948 and worked on reactor maintenance.

Then in 1959 he moved to the Rutherford Laboratory where he later helped to manage the Experimental Hall.

"For that reason, BNFL has sent a factual brief on reprocessing, the Japanese contract and health and safety to more than 150 Members of Parliament, to leading trade unionists and to interested employers' organisations."

It was after BNFL announced that it was negotiating a new contract to reprocess spent fuel elements from Japan that the *Daily Mirror* and environmentalists attacked the company for turning Britain into a "nuclear dustbin".

In the news

Since then, says *BNFL News*, the company's staff have been interviewed extensively on television, radio and by newspaper reporters.

Others have addressed meetings and invitations have been given to MPs, trade unionists and journalists—including the *Daily Mirror*—to visit the Windscale reprocessing plant.

"BNFL will persist with its 'open door' policy for two main reasons," says *BNFL News*.

Favourable

"The company is convinced that the more people know about our business and about a safety record which compares very favourably with that of any other energy-producing industry or industry generally, the less they will find they have to fear."

"There are distinct dangers for the company, for Britain's total energy policy and for employment within BNFL and in the energy-using industries in allowing the 'anti' group to make all the running."

Ill-informed

"Nobody should be under any illusion that, if the highly vocal, if ill-informed, lobby against the Japanese succeed, it will be a short step to move on to try to stop the reprocessing of all spent fuel elements, British as well as foreign."

"This, in turn, would call into question our own civil nuclear programme and would lead to an energy gap which would gradually worsen, stultifying economic growth and threatening living standards."



A NEW book which Harwell helped to prepare was seen for the first time at open day for sixth formers at London's Imperial College last month.

Harwell's Public Relations Group collaborated with the Institution of Metallurgists in the design of the booklet, *Create Materials*, which is intended to attract school leavers into a career of materials, science and engineering.

The book is the work of a panel which included Professor Robert Cahn, from the University of Sussex, Professor Pratt, from Imperial College, Dr. Richard Wilcox, the Education Officer of the Institution of Metallurgy, and Dr. Roy Johnston from Harwell's Materials Development Division.

In the picture Peter Rimmer (second from the left), from Harwell's Personnel Department, discusses career prospects with a group of boys from St. John's School, Leatherhead, Surrey.

Former US man has died

DR. JOHN WILLIS, who was the Authority's representative in Washington from 1954 until 1957, has died aged 63.

A chemist, he joined the Department of Atomic Energy at the Ministry of Supply in 1946 and moved to Harwell in 1948.

For six years he worked in the Extramural Research Division before going to America.

Soon after his return he was appointed secretary to the National Institute for Research in Nuclear Science and secretary of the Rutherford Laboratory at Harwell.

When the Science Research Council absorbed NIRS in 1965 he moved to London as secretary of the Nuclear Physics Board and later became head of the SRC secretariat.

For two years before he retired in 1972 he worked as secretary for the British Association for the Advancement of Science.

SCHOOLBOYS FIRST TO SEE NEW BOOK

NUCLEAR DUSTMAN

My old friend's a dustman. Now what d'you think of that?

He wears uranium trousers And a little plutonium hat. He wears a stainless muffler Around his glass-lined throat.

For my old friend's a dustman

On a Japanese-bound boat. —From a poem dedicated by British Nuclear Fuels Limited colleagues to the company's managing director, Con Allday, at a party to celebrate his 55th birthday.

Children's films

A SPECIAL children's film show arranged by Harwell's film society on January 2 included *Asterix the Gaul* and *The Amazing Mrs. Blunden*.

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FOR LONG-LIFE BEARINGS ADD CARBON

A TECHNIQUE for making bearings last longer by reinforcing them with carbon fibres is being shown as one of four exhibits chosen to highlight Harwell's work and co-operation with industry at an exhibition which opens in London on January 20.

The exhibition features the work of several organisations and will try to demonstrate the contribution they could make to Britain's engineering industry.

Organised by the Design Council, it is being held at the Design Centre in London's Haymarket from January 20 to February 20.

Harwell's exhibit also describes its work on improving ceramics, using advanced radiographic inspection techniques and shows an example of how better use can be made of materials.

Bearings reinforced with carbon fibres have been shown to have much better performance and much less wear and tear, said a spokesman.

Prototypes

Prototype bearings like the ones to be shown at the exhibition have been incorporated by Harwell into pumps used to circulate cooling water around one of its experimental reactors. "Tests have shown negligible wear after 10,000 hours of operation," said the spokesman.

Britain leads the world in advanced radiographic inspection techniques which Harwell pioneered and developed in collaboration with Rolls-Royce (1971) Limited.

The technique has been used to study what goes on inside the turbines of aircraft engines while they are actually working.

EX-FINANCE HEAD HAS DIED

MR. H. HUDSPITH, who was head of the Authority's Finance Branch in London until he retired in October, 1967, died last month.

Once a tax inspector, Mr. Hudspith, a Cambridge graduate, was deputy commissioner of income tax in Palestine from 1945 to 1948 and an adviser on taxation to the North Borneo and Sarawak Government a year later.

He spent four years with the Treasury before becoming assistant financial secretary to the Sudan Government in 1953.

He returned to the Treasury in 1955 and joined the Authority a year later.

Camera man has died

WILLIAM CONDREN, one of the first photographers at Harwell, has died.

A wartime photographer and instructor, he was made an associate of the Institute of British Photographers in 1954.

Through the association he campaigned continuously for better pay and recognition for Government photographers.

He moved to Harwell from Woolwich, South-East London, in 1948 to take over the photographic section which had just been set-up by Walter "Buz" Busbridge, now retired.

He left the Authority in 1958, joined Atomic Power Construction Limited and worked for a time at Winfrith in its early days.

As a photographer he excelled in still-life subjects in the studio. Colleagues claim that he frequently illuminated his subjects with candlelight.

He was interested in antique furniture and walking.

Two Harwell men go to the Palace



Dr. Andrew McLean, director of the National Radiological Protection Board, is seen outside Buckingham Palace shortly after receiving the CBE from the Queen last month. With him are his wife Christine and his daughters, Mrs. Fiona Hamby and Mrs. Deirdre McCulloch.

Dr. McLean is the board's first director, a post he took up in 1971. Before that he was in charge of the Authority Health and Safety Branch. Dr. McLean is also a member of the International Commission on Radiological Protection, a member of the World Health Organisation Expert Advisory Panel on Radia-

tion, and a member of the Euratom Group of Experts responsible for advising on basic safety standards. He is a Fellow of the Royal College of Physicians.

Outside Buckingham Palace last month, too, Mrs. Sheila Wallace (right, below) and Mrs. Helen Paton (centre) congratulated John Wallace, who went to collect the award he received in the Queen's Birthday honours last year.

Mr. Wallace, who has been apprentice manager at Harwell since 1956, was made an MBE.

He joined Harwell as an instrument maker and became chief apprentice instructor in 1948.

POWER CHIEF SAYS NUCLEAR IS CHEAPEST

BRITAIN'S original magnox nuclear power stations are producing electricity at two-thirds the cost of coal-fired stations and little more than half the cost of oil-fired ones, Arthur Hawkins, chairman of the Central Electricity Generating Board, told a meeting of the British Nuclear Energy Society and the British Nuclear Forum in London.

Although the magnox stations were designed to produce only about six per cent of the total output of the country's power stations, they produce more than 10 per cent of the electricity needed in England and Wales because of their reliability and effectiveness in operation, he said.

"The magnox stations have firmly established nuclear power in Britain not only as a reliable and economic means of producing electricity but as a safe means as well," he added.

"The safety record of nuclear power in Britain is excellent and the nuclear industry must ensure above all else that this record is maintained," said Mr. Hawkins.

There was a strong case for expanding nuclear construction in Britain to help in controlling energy prices, to benefit the balance of payments and make conventional fuels last longer.

"The prime need is not to advance reactor technology but to build industrially successful reactors—that is reactors manufactured to competitive time and price and capable of safe and reliable operation."

"This can be, and must be, met by Britain's reorganised nuclear industry," he said.

Insurance risk that's not a risk

THE fact that insurance policies exclude nuclear risks does not mean that property owners are being asked to accept a risk which insurers are unwilling to cover, Mr. A. I. Scott, company secretary of British Nuclear Fuels Limited, said in a letter in the *Guardian* last month.

"It is simply a precaution against the confusion which could result from double coverage," he said.

The 1965 Nuclear Installations Act makes people who use nuclear devices responsible for any damage which they might cause. Normally they take out insurance themselves.

"It is not surprising, therefore," said Mr. Scott, "that the insurance market should take steps to make clear that there can be no question of meeting the cost of full compensation for any occurrence twice over."

AID FOR CENTRE

A £35 SURPLUS in the tea kitty in Dounreay's Computer Section helped to buy equipment for the day care room of a newly opened adult training centre for the handicapped in Wick, 30 miles away.

FOUNDER LAB MAN RETIRES



BASIL TOZER, a founder member of Culham Laboratory, retired last month. He was one of the first people to join the new Laboratory at Culham in 1962 on being transferred from Harwell, where he had previously worked since 1949.

At both Harwell and Culham he had responsibility for the placing and monitoring of research contracts with Universities and Industry.

The laboratory's director, Dr. R. S. Pease, presented Basil with a barograph, a chess clock and a bottle of whisky at a retirement ceremony attended by many of his friends from Culham and from several universities.

Basil Tozer lives in Grove, Oxon, where he has been very active in local affairs for many years.

He has been succeeded as Culham's representative of the Authority non-industrial benevolent fund by George Cruickshank.



EDUCATION MANAGER RETIRES

A COURSE manager in Harwell's Education and Training Department, Ron

Faires has retired after 27 years on the site.

In 1949 he led a group producing radioisotopes for medical use and later joined the Harwell Isotope School, becoming its principal in 1955.

When the Authority's old Wantage Research Laboratory closed in 1967, Ron moved to Harwell's Education and Training Division.

He was a local councillor from 1952 to 1955 and had

been a member of the Further Education Advisory Committee since 1952 and, for a time, has been its chairman.

Ron is also the author of a number of school books, including one on experiments in radioactivity. His *Radioisotope Laboratory Techniques*, of which he was co-author with the late B. H. Parks, is now in its third edition and has been translated into German, Spanish, Polish and Japanese.

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Big nuclear ice-breaker for Canada?

A NEW ice-breaking ship planned in Canada may be nuclear-powered.

Atomic Energy of Canada Limited is co-operating with the Canadian Coast Guard to see how practical it would be.

The proposed vessel would cost about £70 million and would be the first

nuclear ice-breaker outside Russia. It could be ready for service by about 1985.

To produce the 80,000 horsepower the ship needs, designers are discussing a 65-megawatt reactor which would cost about £20 million.

According to the Canadian Nuclear Association, it would probably be a light-water reactor using enriched uranium as fuel.

In four years the ship would probably save £10 million by using nuclear fuel instead of oil.

Other advantages, say Canadian experts, are that the nuclear powered ship could be used non-stop all the year round and be employed for heavier ice-breaking work than other ships.

Russia's third nuclear-powered ice-breaker is already being built in Leningrad, only months after its predecessor made its trial run.

The first, the *Lenin*, was launched in 1959. The second, the *Arktika*, is claimed as the world's most powerful ice-breaker.

EIGHT NEW REACTORS

AN ORDER for eight nuclear reactor vessels should be signed early this year by Electricité de France.

Negotiations have been going on between EDF and Framatome SA, said an EDF spokesman in Paris.

The vessels are needed for the nuclear power stations now being planned by EDF.

The order, which includes an option for two more, would be in addition to 12 firm contracts and four options which EDF have with Framatome.

ACCIDENTS: NO HARM

RADIOACTIVE materials have twice escaped into Lake Huron, Canada, from the Douglas Point nuclear power station, according to Robert Wilson, manager of Ontario Hydro's Health Physics Department.

But there was no danger to health, he said.

Both incidents—the result of human error—happened in 1970. The latest tests in the lake off Douglas Point show no detectable radiation.

Pakistan has big plan

PAKISTAN has a plan to build 15 nuclear power stations in the next 25 years. The Pakistan Atomic Energy Commission is working on the plans, said its chairman, Munir Ahmed Khan.

He told reporters in Peshawar that Pakistan has enough uranium which it can mine to provide fuel for the stations.

SPORT NEWS

Golf prizes at Seascale

WHEN the women's section of Seascale Golf Club held its annual prize-giving the club championship was won by Jean Long, wife of Bill Long, planning manager of British Nuclear Fuels Limited at Calder Hall.

The runner-up was Rita Rushton, whose husband Harry also works for BNFL in Windscale's Technical Section.

Jean Bailey, wife of Dr. Brian Bailey, who also works at Windscale, won the club captain's prize.

Other winners included Dorothy Boardman, whose husband Jack is in the BNFL's training section at Windscale; Lilian Clucas, the wife of Reg Clucas, of the Heavy Chemical Group; and Freda Walsh, whose husband Bill works in the Electrical Department at Windscale.

HEAVIEST FLAT FISH

FRED BARNISH won the first Springfields fishing contest from Blackpool's Central Pier with a catch of 11b. 6oz.

Fred, who works for British Nuclear Fuels Limited in its Instruments Section at Springfields, landed two flounders.

The Boat Section of Springfields Social and Recreational Association has fishing rights on the Central Pier, which is open 24 hours a day to permit holders.

Hard match on squash courts

A friendly match against Wolfson College Squash Racket Club nearly ruined Harwell's chances in a league match which followed.

John Cairns was playing well against Tim Rattenbury, the former University player, and leading 8-6 in the fifth set when he received a severe blow on his hand.

The injury made him lose 10-8 and withdraw from the league match against Aldermaston.

But the weakened Harwell side played well enough to win 3-2.

A win after slow start

ON a good pitch in ideal conditions Harwell's hockey team outplayed Westminster College and scored 10 goals to the College's one.

In the first ten minutes of the game Harwell missed several opportunities and a breakthrough goal by the College put them in the lead.

But after that Harwell scored at regular intervals.

Div three and a win

PLAYING their first Berkshire League match after promotion to division three, the Harwell Badminton Club's mixed team beat Maidenhead 7-2.

In division two of the Newbury league, Harwell players became favourites when they beat Aldermaston 5-3 and Exiles 9-0.

CERN PROBES MYSTERY OF PROTON POINTS

EXPERIMENTAL results obtained by CERN, the European organisation for nuclear research, confirm the idea that protons contain hard, point-like objects bound together by a sort of glue, Professor W. Jentschke told the CERN council last month.

Professor Jentschke, who has come to the end of his five-year term as director-general of CERN's first laboratory, was reviewing recent progress.

The most recent results from Gargamelle—the biggest heavy liquid bubble chamber in operation—are equally significant, he said.

From tens of thousands of photographs analysed, two events have been found which show a quite new process of particle behaviour to be at work.

One possible interpretation is that it is evidence of a new property of matter which has been labelled charm and which has been the object of an intense search in all high energy physics laboratories.

In addition to these more

dramatic findings the detailed painstaking work of precisely measuring the more elusive characteristics of rare particles has gone on and the patterns are slowly being completed.

Ring complete

Intensive preparations are being made for the start-up of the new 400,000 million electron volt accelerator and the meeting coincided with the putting into place of the last of the 744 bending magnets which make up its 4½-mile ring.

In spite of the usual difficulties inherent in bringing

together the huge number of components from so many countries the project is still on time and within budget estimates, Professor Jentschke said.

CERN's two laboratories have now been merged, with former Authority Member Dr. J. B. Adams as executive director-general and Professor L. Van Hove, from Belgium, as research director-general.

Professor Jentschke is returning to the Institute of Physics at Hamburg University in Germany and becomes a member of CERN's Scientific Policy Committee.

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OVERSEAS SPOTLIGHT

Computer control?

NEW ways of using computers to control nuclear power stations are being investigated in Norway by the Nuclear Energy Agency of the Organisation for Economic Co-operation and Development.

The work is being done at the Halden reactor which the agency operates.

Work has been going on for several years, says the 15th annual report of the reactor project, just published.

Experts are trying to develop a system which controls the distribution of power in reactor cores and which could control the output from a nuclear power station so that it followed the demand for electricity in the area it was supplying.

They are also working on a system to analyse faults in the plant.

POWER IN SPAIN

THE American General Electric Company has signed a contract to supply two boiling water reactors for a new power station to be built near the Guadiana river in south-west Spain.

With turbines and other equipment, the order is worth more than £130 million, said General Electric.

The power station should start work in 1980 and its second unit will be running a year later.

Meanwhile the similar power station at Cofrentes is due to start work in 1979.

CARAVAN EARNS A CUP

DICK STANTON, of British Nuclear Fuels Limited's Construction Branch at Capenhurst, and his wife have won a cup for the best kept caravan and garden on the Henllan Site at Cyfrnydd, near Welshpool, Powys.

They use their caravan for weekends and holidays. The site itself won a "Wales in Bloom" award.

Carol cash

COLLECTIONS at Harwell's Christmas choral concert last month raised £34 for the site's welfare fund—a record.

Foil savers galore and they get their fourth guide dog



WIFE ON ROPE SAVES PET DOG

A SPRINGFIELDS policeman's wife dangled at the end of a rope 20 feet down a narrow gap for more than half an hour to rescue her pet dog.

She is Eunice Kent, wife of Sgt. Norman Kent.

The couple were on the first day of their holiday near Loch Maree, Highland, when the dog, Topsy, ran off through the heather and disappeared down a crevice in the rocks.

Burly Norman could not get down the 18-inch-wide crevice himself, so Eunice was lowered on a borrowed rope.

A former sister in the Springfield Medical Department, she is now a ward sister at the Sharoe Green Hospital nearby.

BIG HUSH IS BEING DISCUSSED

IF you have to shout in a colleague's ear to make yourself heard above the noise in your workshop or office, new laws which are being discussed by the Health and Safety Commission may make life quieter for you.

The commission is suggesting new legal limits on the noise which people have to put up with at work.

At present only the wood-working industry has statutory limits.

The commission has issued a consultative document which outlines possible legislation for people in manufacturing industries.

It also recommends that it could be the basis of legislation which might cover everyone at work.

And the commission is asking for comments.

WHEN it comes to saving, Harwell employees are the tops, says the women in the Reprographic Typing Section who have been collecting bottle tops and aluminium foil for 11 years to buy guide dogs for the blind.

They are just about to pay for their fourth dog. "At £500 a time for a fully-trained dog, that represents an awful lot of foil," said Helen Baron,

who organises the scheme. The present rate for selling foil is £4 a hundredweight.

The flow of foil has swelled to such a flood lately that a lorry now has to call every three weeks to collect it.

Preparing another batch for despatch are (from the left) Carol Boram, Peggy Steggle, Margaret Brown, Helen Baron, Audrey Butler, Beryl Cross.

'Unsafe?—I didn't say that'—Sir Brian

SIR BRIAN FLOWERS, chairman of the Royal Commission on Environmental Pollution, has denied that he believes that fast reactors are unsafe.

In a letter to Prime Minister Harold Wilson he had said there were dangers in handling radioactive waste and "unresolved problems" about the stability of the reactors.

He also mentioned risks associated with processing the plutonium fuel and the possibility of sabotage or theft.

The letter urged the Prime Minister to delay any decision to build the first full-scale demonstration fast reactor plant until the Royal Commission had completed its report on radiological safety.

Arguments

The letter agreed that there were arguments for going ahead with a demonstration plant and that fast breeder reactors are an important part of Britain's energy plans.

Later Sir Brian said the letter did not reflect a belief that the system was unsafe. It was rather that it could not yet be said that the fast reactor system was as safe as more conventional reactor systems were known to be.

More time

Scientists and engineers involved in the project believed that four or five years' more work would make all the difference, said Sir Brian.

"I am inclined myself to

think that they are right," he said.

Replying to Sir Brian's letter, Harold Wilson told him there was no question of an imminent decision to build a full-scale fast reactor. He hoped the commission's full report would be available before a decision was needed.

Whitehall spokesmen told reporters that they expected an order to be placed around 1978.

STORES MEN TAKE TROPHY

THE second Springfield safety and good-housekeeping competition arranged by British Nuclear Fuels Limited, was won by the Stores Department with the Civil Advanced Gas-cooled Reactor Canning Department runners-up.

The safety trophy, awarded after five rigorous inspections of the stores working area was handed to storeman Walter Graham by Springfield's general manager Dr. H. Rogan.

Poppy Day cash

COLLECTIONS on Poppy Day at Winfrith raised £66.

AUTHORITY AS BUSY AS POSSIBLE

—Sir John

THE work which the Authority is now doing is stretching its resources to the full, chairman Sir John Hill told the annual meeting of the Authority Whitley Council last month.

It is now a job to make sure that the many varying demands that are being made on the Authority's resources are met as quickly and as fully as possible.

The Nuclear Power Company is setting up its project teams and the building programme for the steam-generating heavy water reactor is gathering momentum, he said.

The company and the Authority are co-operating closely in design work.

The first two advanced gas-cooled reactor stations—at Hinkley Point, Somerset, and Hunterston, Strathclyde—were both being commissioned with help from the Authority's Reactor Group.

The target date for producing electricity for the

national grid at both stations is April, said Sir John, and the Authority confidently expects that both stations will be highly economical in performance and will demonstrate the benefits of nuclear power.

The prototype fast reactor at Dounreay is now working continuously, he said.

The nuclear plant there has given trouble-free operation but leaks in part of the steam-raising plant and difficulties in the turbine oil system had delayed electricity generation.

The plant has been operating on one of its three power circuits and the other two are expected to come into operation during the next month or so, Sir John predicted.

Continuing

He also foresaw substantial and continuing work leading to the large-scale use of nuclear power.

The treatment, storage and disposal of radioactive waste would need a great deal more study, he said, and the Authority and British Nuclear Fuels Limited were co-operating in work to turn the waste into glass.

There was a great deal of work to be done and the rate at which it could be tackled would depend on decisions affecting public spending.

Victor is a City freeman

VICTOR Burroughs, who used to work in Harwell's Public Relations Branch, has been made a freeman of the City of London.

Victor, well known for his paintings, was last month elected a freeman and liveryman of the Worshipful Company of Painter Stainers in the City.

His daughter, Miss M. A. Burroughs, still works at Harwell.

Energy post

LEONARD WILLIAMS, deputy secretary at the Department of Energy, has been put in charge of the Common Market's energy policy.

He has been chief adviser on international affairs to Tony Benn, Secretary of State for Energy, and starts his new job this month.

Two new computers are on order

THE Authority signed a contract with International Computers Ltd last month to rent two 2900 Series computer systems, valued at £5 million.

An ICL 2980, working early in 1977, and a smaller system following six months later, will meet most of the computing needs of the Authority and British Nuclear Fuels Limited through a national network.

The 2980 computer system is to be installed at Reactor Group headquarters at Risley. It will provide the main computing power for the group and for BNFL's headquarters there.

The smaller 2900 system will be installed at Winfrith. It will be used for work on-line to experimental facilities at Winfrith and will also be linked to the system at Risley.

The new computers will replace an ICL 4-72 at Risley and an ICL 4-70 at Winfrith.

LATEST

OVERWHELMED

THE women's team from Harwell's squash club overwhelmed their opposition with a 5-0 defeat when they met Aldermaston last month.

Jacky Hummel showed her best form for Harwell and won in straight games. Athel Winchester, Mary Wicks and Cecilia Tynan also won in three games. So did Jenny Coates, who conceded one point.

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