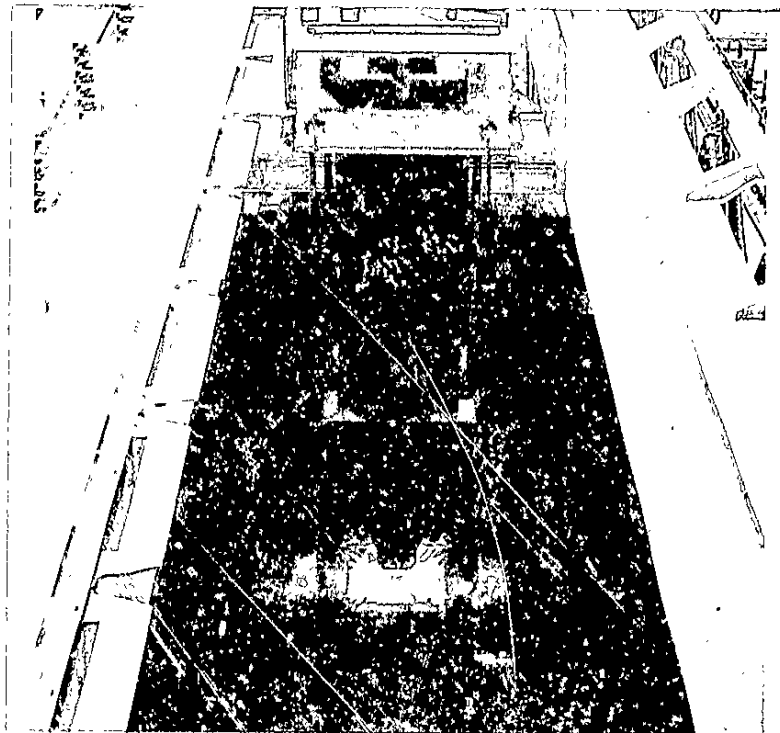


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ANNUAL REPORT
AND ACCOUNTS
1985-86



BRITISH NUCLEAR FUELS plc

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*ANNUAL REPORT
AND ACCOUNTS
1985-86*

British Nuclear Fuels plc,
a world leader in the provision of
nuclear fuel cycle services,
employs over 16,000 people
at its five sites in
North West England
and Southern Scotland.



BRITISH NUCLEAR FUELS plc
CHAIRMAN'S REVIEW

LAST YEAR

The past year has been more demanding than the Group anticipated and this shows in the results. Nevertheless the Group strove to meet the requirements of its customers while introducing new plants which will lead to further improvements in the safety and efficiency of the fuelling service it provides for them.

Turnover is £84M up on the previous year. However, additional costs have been largely responsible for a reduction in profit and a reduced dividend. Profit is down to £44M; the dividend lowered to £8.2M.

There were two main reasons for the downturn. Additional provisions were needed for the cost of encapsulating, storing and disposing of waste¹ and for improvements in effluent treatment facilities. The new Fuel Handling Plant has taken longer than expected to come up to the desired production levels. It was one of the biggest and most complex construction projects ever undertaken at Sellafield and commissioning operations have reflected its complexity.

ENVIRONMENTAL IMPROVEMENTS

The Group's continuing programme to reduce discharges of low level radioactive effluent at Sellafield has been greatly helped by the commissioning of SIXEP – the Site Ion Exchange Effluent Plant.

SIXEP has halved the discharges. Nevertheless we will not stop there. Our aim must be to bring them down to levels which are recognised as being as near zero as makes no difference. New plants which will achieve this have already been approved. They are due to come on stream in the early 1990s.

FUTURE BUSINESS

Our business prospects look extremely encouraging. We recently signed contracts with the CEBG and the SSEB to undertake reprocessing work in the Thermal Oxide Reprocessing Plant – THORP – when it is commissioned in the next decade. These contracts, together with those already signed by overseas customers are worth over \$4,000M during the first ten years of the plant's operation.

The strength of our order book is due to an international and extremely valuable customer base. It includes the Central Electricity Generating Board, and the South of Scotland Electricity Board, as well as customers in Japan, West Germany, Switzerland, Italy, Spain, Sweden, Holland and the USA. The business environment in which we operate has become increasingly competitive so it is vital that we continue to service our customers effectively.

CON ALLDAY

No one has understood this better than my

predecessor, Con Allday, who retired at the end of the year after a most distinguished career. He was largely instrumental in establishing the Group as a world leader in the provision of nuclear fuel cycle services. Con Allday's many achievements in the nuclear power industry will come to be recognised with increasing force, and we are enormously grateful to him for all that he did for the BNFL Group and the nuclear power industry during the 27 years he worked in it.

OTHER RETIREMENTS

Since the publication of the Group's last Annual Report and Accounts five other Directors have retired from the Board. Dr NL (Ned) Franklin was one of the founder Board members of the Company and its first Chief Executive. He set the tone for the Company in its early years and later he helped to guide its progress as a non-executive Director. Two fellow Directors, Sir Philip Shelbourne and Mr Richard Morris CBE had been Non-Executive Directors of the Group since its formation in 1971 and we benefited greatly from their wide experience. A further Non-Executive Director, Mr William Scott OBE, made a significant contribution during the relatively short period in which he served on the Board.

Mr Jack Tatlock CBE was Deputy Chief Executive of BNFL and retired at the end of June after 40 years in the industry. He was responsible for many of the engineering developments which have taken the Group to the forefront of nuclear power technology. His achievements earned him a considerable reputation world-wide.

All five of these Directors will be missed, but I know that we can continue to call on them for advice. New Non-Executive Directors will be appointed during the coming year.

A RESPONSIBLE ATTITUDE

The public quite rightly expects us to meet the tightest safety and environmental standards, even more stringent than in other industries. We accept that. The public also expects nuclear power to remain competitive. So we must look for constant improvements in our operations.

It must be emphasised, however, that no cost reductions will be made at the expense of safety. Indeed we do not have a business unless we have a safe business.

A new management structure has been introduced into the Company which places greater accountability on all levels of management within the Group, starting at the top with the Executive Directors.² Responsibilities have been re-defined and in essence these are a move away from functional direction towards the business centre concept. Led by Neville Chamberlain, the Group's new Chief Executive, and assisted by Dr W L Wilkinson, his new

¹ see page 64 for categories of waste.

² see page 37.



BRITISH NUCLEAR FUELS plc
COMPANY OBJECTIVES

THE COMPANY'S PRIMARY OBJECTIVES ARE:

- 1** to earn a return on capital employed which is satisfactory to the shareholder and is consistent with the contractual, legal and social framework within which the Company operates;
- 2** to achieve a high degree of self financing in meeting the Company's future investment requirements;
- 3** to provide an efficient and economic fuelling service to the UK Generating Boards and to meet the needs of other domestic customers;
- 4** to obtain profitable overseas business in order to provide greater growth, with its attendant economies of scale, than that offered by the UK market alone.

*THESE OBJECTIVES ARE PURSUED SUBJECT TO TWO
OVERRIDING CONDITIONS:*

- 1** that standards of safety and environmental protection are maintained well within statutory requirements; and
- 2** that overseas business is only undertaken within the guidelines laid down by Government to avoid increasing the risk of proliferation of nuclear weapons.

In structuring its business, the Company pays particular attention to the remuneration and welfare of its present employees and, through expansion, seeks both to extend their opportunities and offer additional employment prospects.

BRITISH NUCLEAR FUELS plc
NUCLEAR POWER AROUND THE WORLD



British Nuclear Fuels plc (BNFL) is one of the few organisations in the world providing a comprehensive range of fuel services to the nuclear industry.

Employing over 16,000 people at five sites, the Company has four divisions – Fuel Division (fuel manufacture), Enrichment Division (uranium enrichment), Reprocessing Operations Division (reprocessing of irradiated fuel) and Reprocessing Engineering Division (construction of reprocessing and associated plants).

Fuel is manufactured at Springfields near Preston, enriched at Capenhurst near Chester and reprocessed at Sellafield in West Cumbria. In addition the Company owns and operates two nuclear power stations – Calder Hall on the Sellafield site and Chapelcross in southern Scotland. The Reprocessing Engineering Division, together with the Company's Head Office is at Risley, near Warrington, Cheshire.

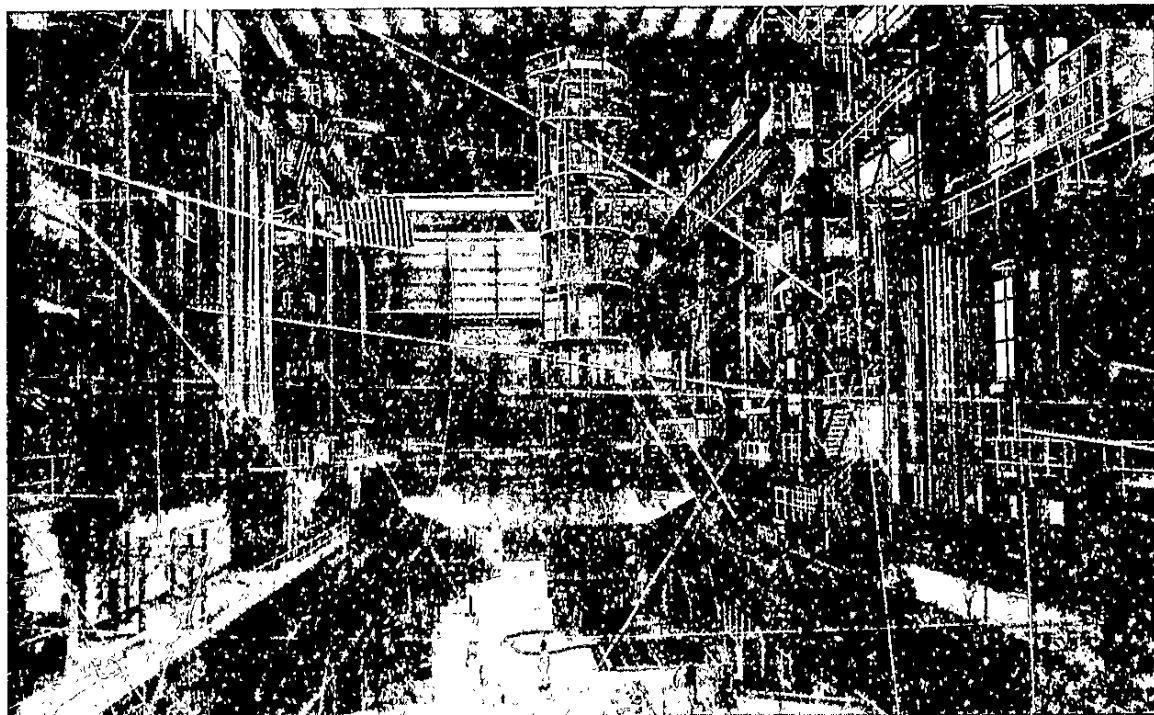
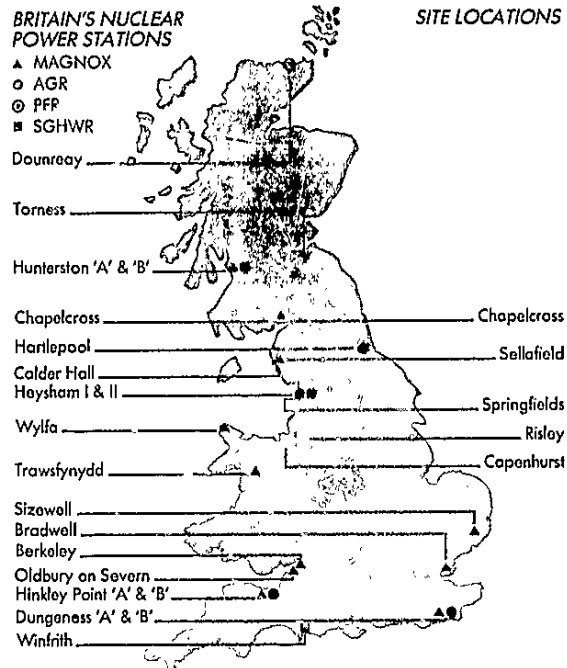
British Nuclear Fuels plc in its present form dates from 1971 when it was created out of the former Production Group of the United Kingdom Atomic Energy Authority. BNFL became a public limited company in 1984 and all the shares are held by the Government.

BNFL's largest customers are the UK electricity Generating Boards, the CEB and the SSEB. There are eighteen nuclear power stations operating in Britain, with a further two under construction.

The Generating Boards operate two kinds of nuclear reactor in Britain, the earlier Magnox stations which use natural uranium metal fuel, and the more

recent Advanced Gas-cooled Reactors which use enriched uranium oxide fuel. In the future the CEB is planning to build Pressurised Water Reactors, the type of reactor most widely in use around the world.

As well as its work for nuclear power programmes at home and abroad, which together represent the overwhelming majority of its services, BNFL also provides a variety of services to the



▲ BNFL has supplied all the fuel for the Advanced Gas-cooled Reactor at Hinkley Point.

BRITISH NUCLEAR FUELS plc
NUCLEAR POWER AROUND THE WORLD
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Ministry of Defence as part of Britain's nuclear weapons programme. This work for the Ministry of Defence represents less than 10 per cent of the Group's business.

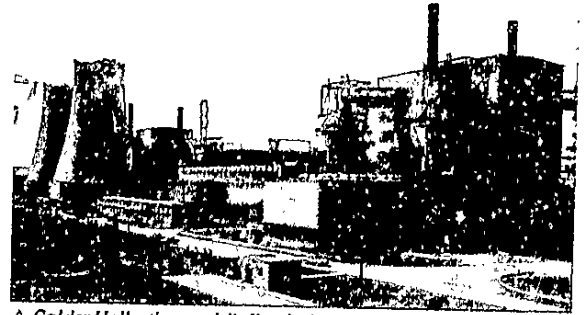
This year sees the thirtieth anniversary of nuclear power in Britain. The thirty years since the connecting of Calder Hall to the National Grid has not, however, been a period of uninterrupted progress. Today 20 per cent of the country's electricity is nuclear generated.

It is expected that the nuclear share of electricity generation in Britain will rise to around 25 per cent by 1990, mainly as a result of the new AGR stations at Heysham and Torness coming into operation.

A number of major UK organisations are involved in the nuclear programme. The Generating Boards run most of the country's nuclear power stations; the National Nuclear Corporation is responsible for the design and construction of the power stations; the United Kingdom Atomic Energy Authority has been responsible for much of the industry's development work, while British Nuclear Fuels plc provides nuclear fuel cycle services.

There are some 40,000 people directly employed in Britain's nuclear industry, with a further 60,000 jobs in a range of industrial and service companies as a result of the industry's investment programme, some £3.6 billion of investment being planned by British Nuclear Fuels alone.

During the period 1985/87 the nuclear industry will be responsible for over 11 per cent of the total UK investment in process industries.



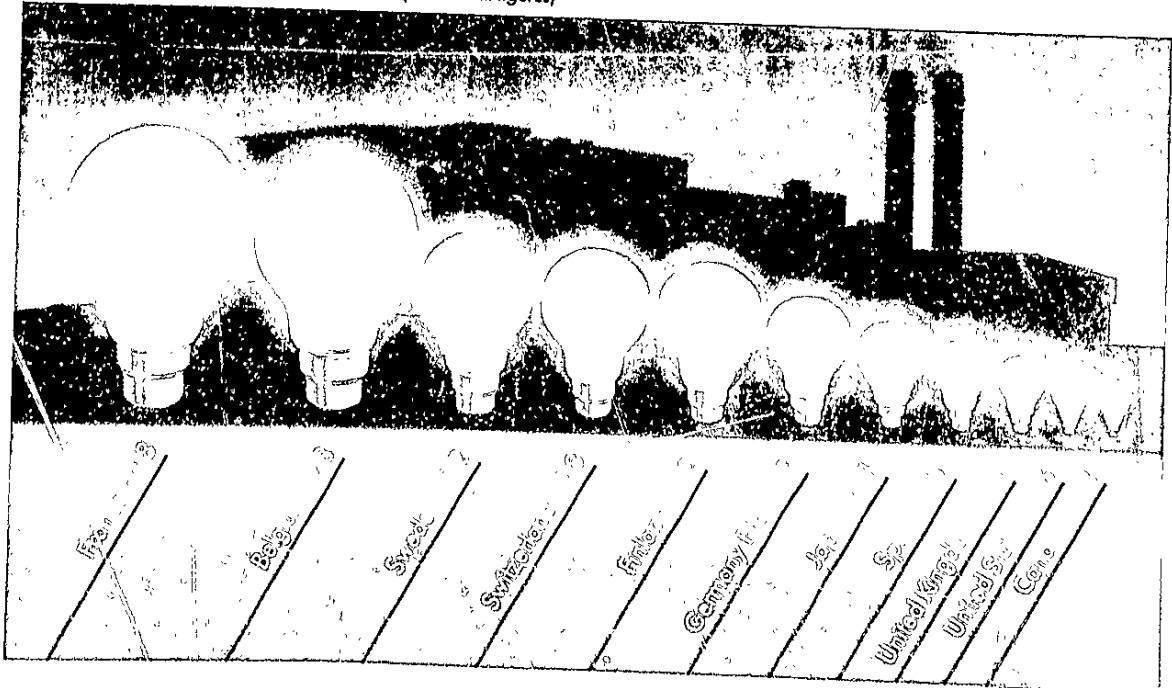
△ Calder Hall – the world's first industrial-scale nuclear power station celebrates its 30th anniversary in 1986.

Nuclear energy now produces approximately 15 per cent of the world's electricity. At the end of 1985 there was a total of 361 nuclear power reactors in operation, representing 248,904 MWe of capacity. In 1985 nuclear generated electricity increased by almost 21 per cent on the previous year.

At the end of 1985, France was operating 45 nuclear reactors, producing 65 per cent of the country's electricity. The French nuclear industry took a further step forward in January this year when the Superphenix fast reactor was connected to the grid.

Within the EEC, France and Belgium are the two countries deriving more than half their electricity from nuclear power, while West Germany has

PROPORTION OF NUCLEAR GENERATED ELECTRICITY IN VARIOUS COUNTRIES
 Source: OECD Nuclear Energy Agency (1985 provisional figures)



increased its nuclear capacity considerably in recent years.

Amongst other EEC members, some 21 per cent of Spain's electricity is nuclear generated. The Netherlands and Italy both obtain relatively small proportions of their electricity from nuclear energy, five per cent and four per cent respectively. But both countries expect nuclear power to play an increasing role in the future, although the Chernobyl accident has resulted in the Netherlands government reviewing its plans for two new nuclear plants.

Outside the EEC, other West European countries heavily dependent upon nuclear power are Sweden, Finland and Switzerland.

The United States has the world's largest nuclear programme, with 91 reactors in operation at the end of 1985, an increase of eight over the previous

EXPORT LINKS



Belgium



Brazil



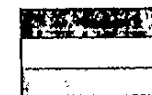
France



Italy



Japan



Netherlands



Spain



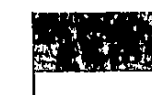
Sweden



Switzerland



USA



West Germany



△ Final assembly area for AGR fuel

BRITISH NUCLEAR FUELS plc
NUCLEAR POWER AROUND THE WORLD
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year. Approximately 16 per cent of America's electricity is nuclear generated.

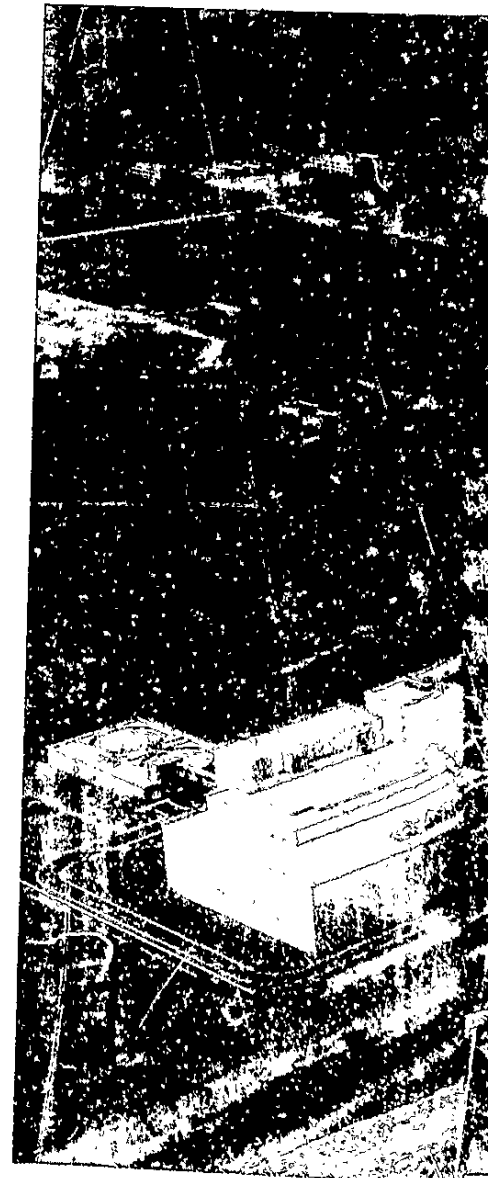
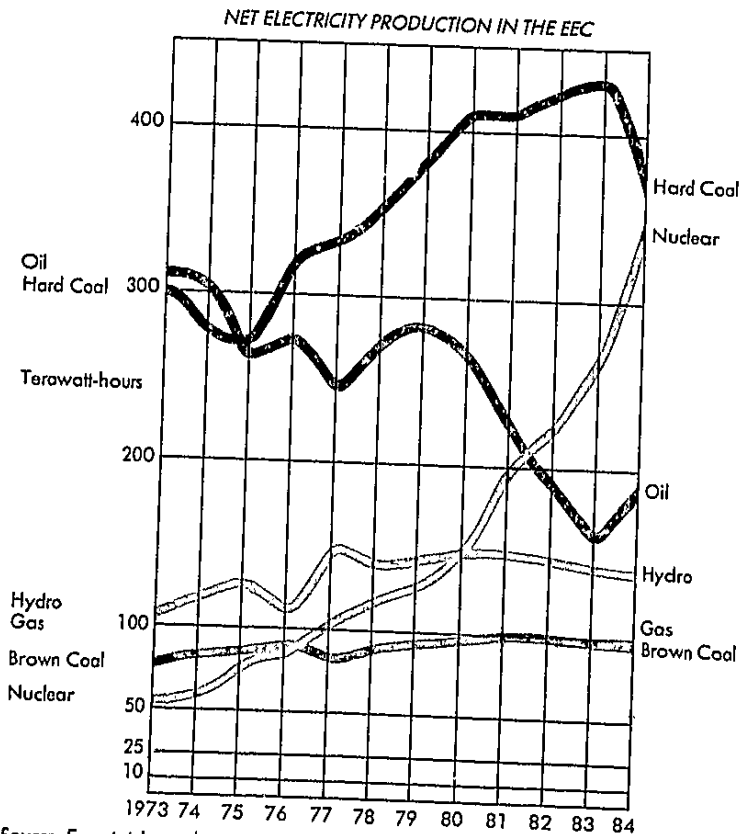
Canada has 15 nuclear units in operation, producing some 12 per cent of the country's electricity, while a further seven units are under construction. In Latin America, Argentina and Brazil have nuclear power stations in operation, while Mexico and Cuba have plants under construction.

Outside Europe and North America, the most important region using nuclear power extensively is the Far East with Japan, South Korea and Taiwan all heavily dependent. Japan, one of BNFL's major customers, has 32 operating units with 10 more under construction. Taiwan now produces more than 40 per cent of its electricity from nuclear power, and Korea

over 20 per cent which will grow rapidly with a major construction programme.

China is also giving considerable attention to nuclear power and the country's first nuclear power station is under construction, with a series of new stations at an early planning stage.

The growth of nuclear power around the world has been significant enough to have a major impact on energy policies. Nuclear has supplanted oil as a major source of electrical energy in many countries, and the Organisation of Petroleum Exporting Countries (OPEC) has said that nuclear power has probably reduced world demand for oil by some six million barrels of oil a day.

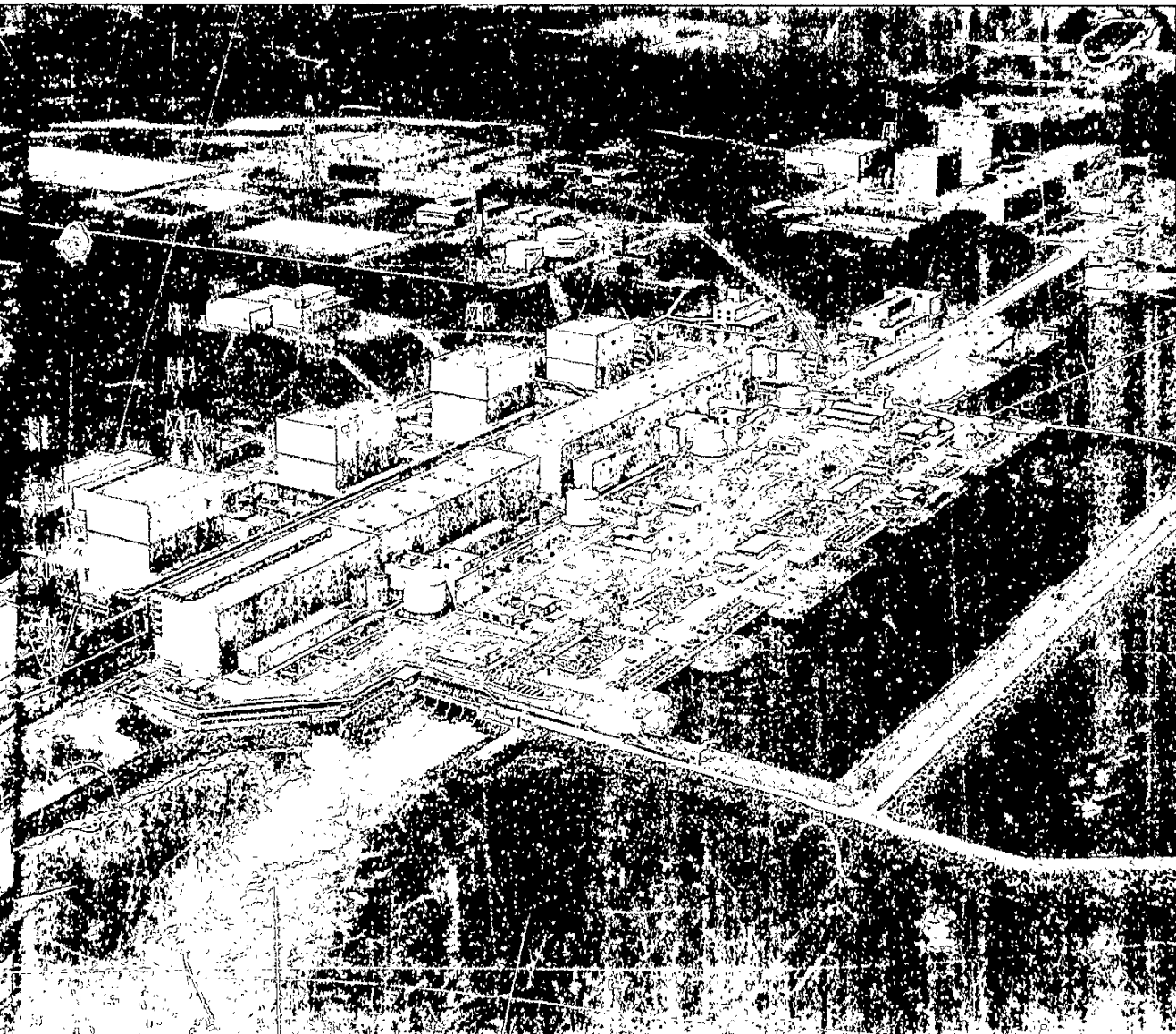




While the world market for nuclear fuel services is extremely competitive, there have been notable examples of international co-operation. BNFL co-operates closely with Dutch and West German companies in the Urenco enrichment enterprise, and is a majority shareholder in Pacific Nuclear Transport Limited (PNTL) which transports spent fuel from Japan to Europe. The Company collaborates with the French on technical developments in the reprocessing area and also works with French and German organisations in marketing reprocessing services, holding one third of the shares in United Reprocessors GmbH.

◁ The purpose-built terminal at Barrow to handle transport flasks of spent fuel.

▽ Fukushima Daiichi nuclear power station in Japan.



BRITISH NUCLEAR FUEL LTD
HIGHLIGHTS OF THE YEAR



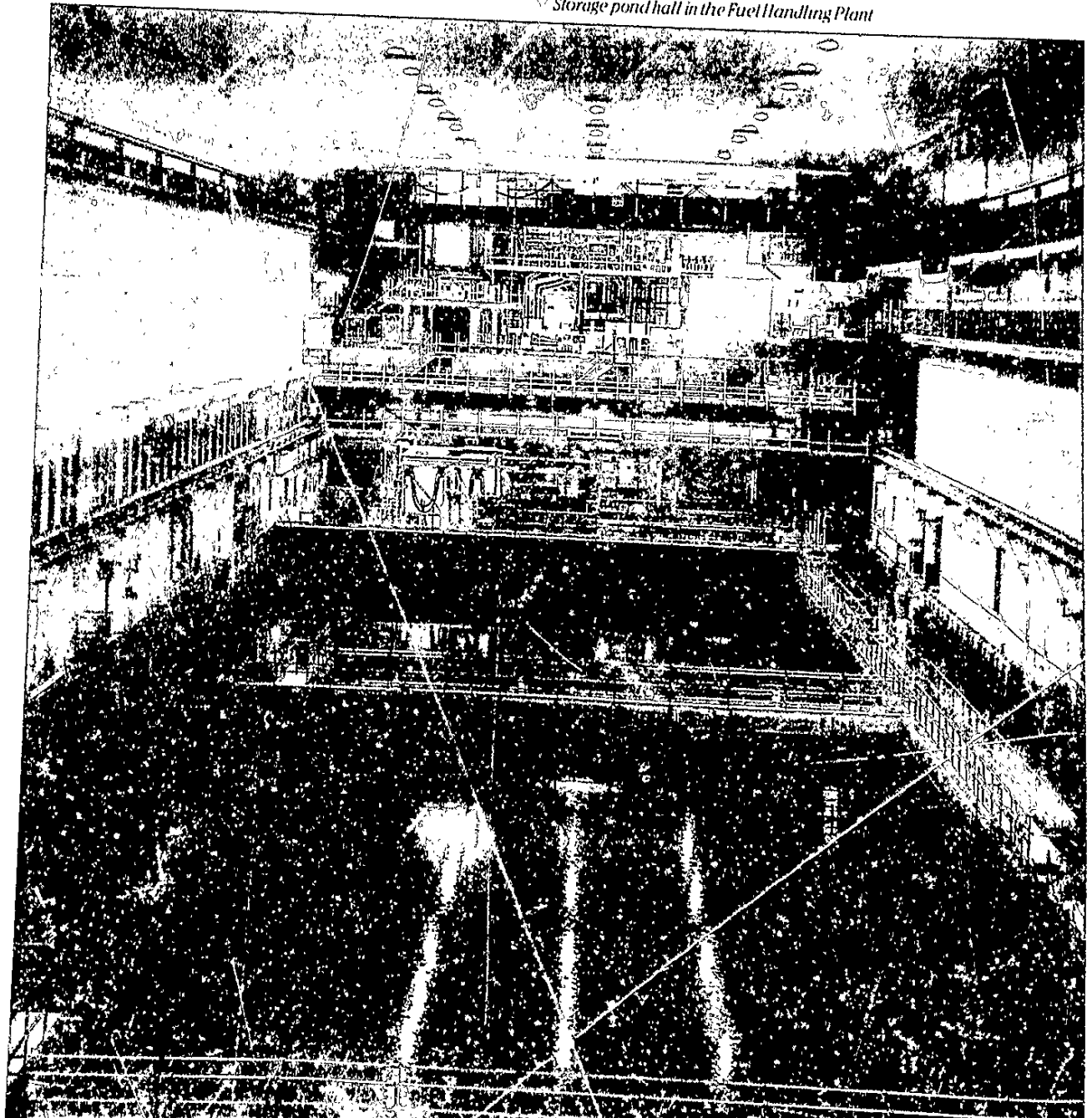
Mrs Thatcher operates a Master Slave Manipulator in the Fuel Handling Plant.

Progress has been made in all areas of BNFL's activities. The major highlight of the year was the official opening, in November, of the Fuel Handling Plant and Site Ion Exchange Effluent Plant by the Prime Minister, the Rt Hon Mrs Margaret Thatcher FRS MP.

The Fuel Handling Plant is now operational for receipt, storage and decanning of Magnox fuel. Additional facilities are now being commissioned in the Fuel Handling Plant to deal with the dismantling of AGR fuel.

The Site Ion Exchange Effluent Plant is one of the plants designed to reduce radioactive discharges to the Irish Sea. Together with the Salt Evaporator, which was also commissioned during

Storage pond hall in the Fuel Handling Plant



the year, it has been extremely successful and discharges from Sellafield have halved over the year.

PNTL's fourth purpose-built ship, the *Pacific Sandpiper*, was named in May 1985. The ship, which has a capacity of up to 28 fuel flasks, will carry spent fuel from Japan to both Sellafield and to Cap de la Hague in France. A further ship for the PNTL fleet was ordered during the year.

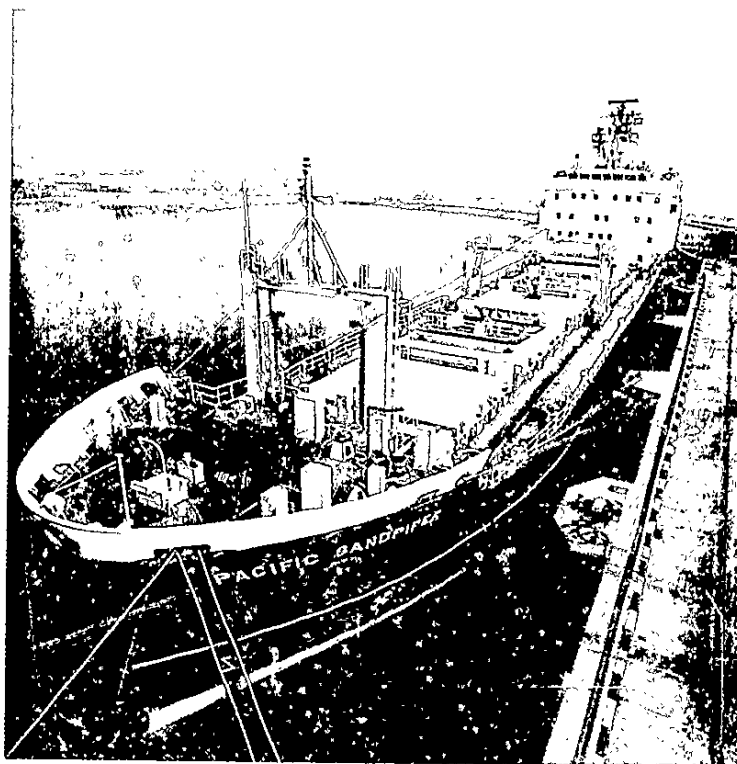
Urenco, the European Enterprise through which BNFL carries out its enrichment services, won further contracts worth £250 million in the face of strong competition. One third of the work involved will come to Capenhurst.

Record output was achieved in two areas of activity this year. The Urenco centrifuge enrichment plants at Capenhurst substantially increased production to nearly 500 tonnes SWU and some 300 tonnes U of AGR fuel were produced at Springfields during the year.

At the end of the year the public inquiry opened into the outline planning application by UKAEA/BNFL to build a European Demonstration Reprocessing Plant at Dounreay. The plant will reprocess fast reactor fuel from a series of demonstration fast reactors to be built as part of a European fast reactor development programme. Consent to the application would enable the UK to negotiate with its European partners for the plant to be built at Dounreay.



△ The Rt Hon Peter Walke, MP, Secretary of State for Energy, on his visit to Sellafield.



△ 'Pacific Sandpiper'. PNTL's latest spent fuel carrier, was named in May 1985.



△ Reprocessing contracts worth £1,600 million were signed in April 1986 by Mr Donald Miller, Chairman of the South of Scotland Electricity Board (left), Mr Christopher Harding, Chairman of BNFL (centre) and Lord Marshall, Chairman of the Central Electricity Generating Board.

BRITISH NUCLEAR FUELS FUEL MANUFACTURE

The Springfields fuel manufacturing plant near Preston is the longest-established of all BNFL's sites and celebrates its 40th anniversary during 1986. Over the years extensive modernisation, construction of new plant and development of new fuels has ensured that the Company continues to maintain its position in this highly-competitive world market.

At Springfields uranium ore is received from mines overseas as uranium ore concentrate, purified and converted into nuclear fuel suitable for use in power stations around the world.

Springfields has manufactured all the fuel for Britain's Magnox and Advanced Gas-cooled Reactors – to date some five and a half million fuel elements, equivalent in energy terms to more than 600 million tonnes of coal.

In addition fuel has been produced for stations in Europe, Japan and the USA including 3,500 tonnes of uranium oxide powder, most of which has been produced by the Integrated Dry Route process

developed at Springfields. In 1985/86 the Company continued to export large quantities of powder and pellets and the United States also started producing fuel using the IDR process under licence from BNFL.

Many thousands of tonnes of such fuel have already been produced under licence in France.

BNFL has produced a total of some 65,000 tonnes of uranium hexafluoride, an intermediate stage in the production of oxide fuel. This market is now beginning to show the first signs of stability and potential for recovery following the severe depression of the past few years, although it is expected that the current excess of capacity over demand will persist into the next decade.



Tony Clements is a process inspector in Magnox rod inspection at Springfields.

Magnox fuel rods during processing



Checking the length of Magnox fuel rods.



New business has been obtained in West Germany, Belgium, Switzerland, Spain, Italy, Japan and the USA during the year and orders for sales of Fuel Division services and technology are now approximately £150 million.

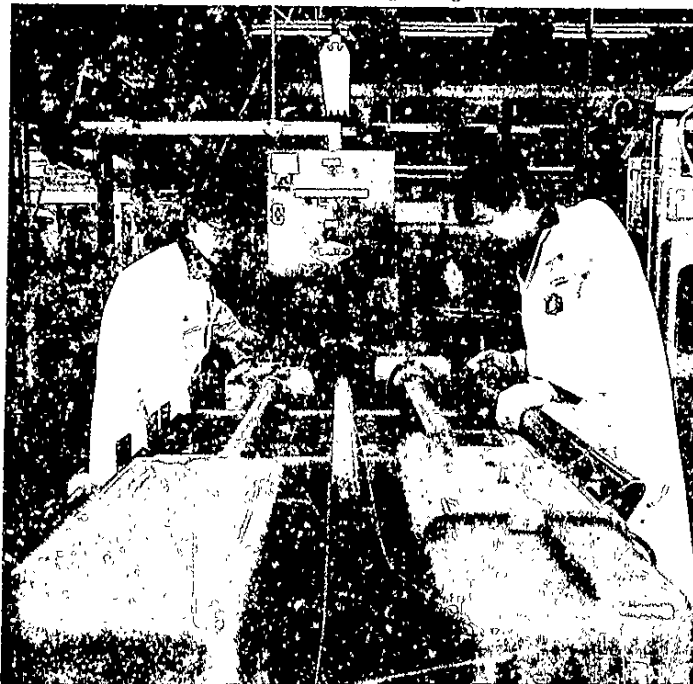
A multi-million pound investment programme including refurbishment of existing plants and construction of new ones is now almost complete.

About 70 per cent of the machinery used in Magnox rod casting, machining and canning has been

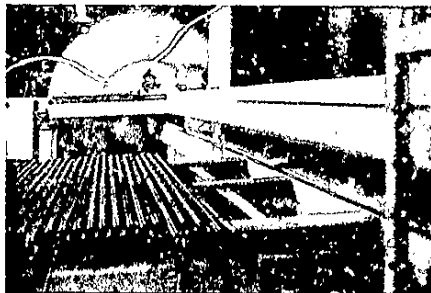
replaced and most of the rest has been refurbished. This has contributed towards increased efficiency and productivity and enabled the plant to meet the continuing increased demand resulting from the extended life of the Magnox stations.

The AGR pelleting plant has now been completely refurbished and the majority of equipment in the canning plant has been refurbished or replaced. During 1985/86 a gamma scanner was introduced making quality assurance inspection of

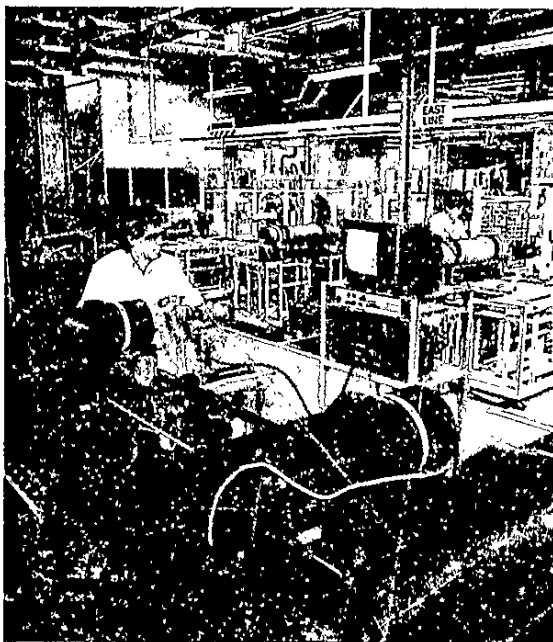
▽ Automatic end cap welding of Magnox cans.



▽ Cataloguing and packing Magnox fuel elements.



△ The new gamma scanner which checks spaces between pellets in AGR fuel pins.



△ Robotic spot welding line.

FUEL MANUFACTURE (Continued)

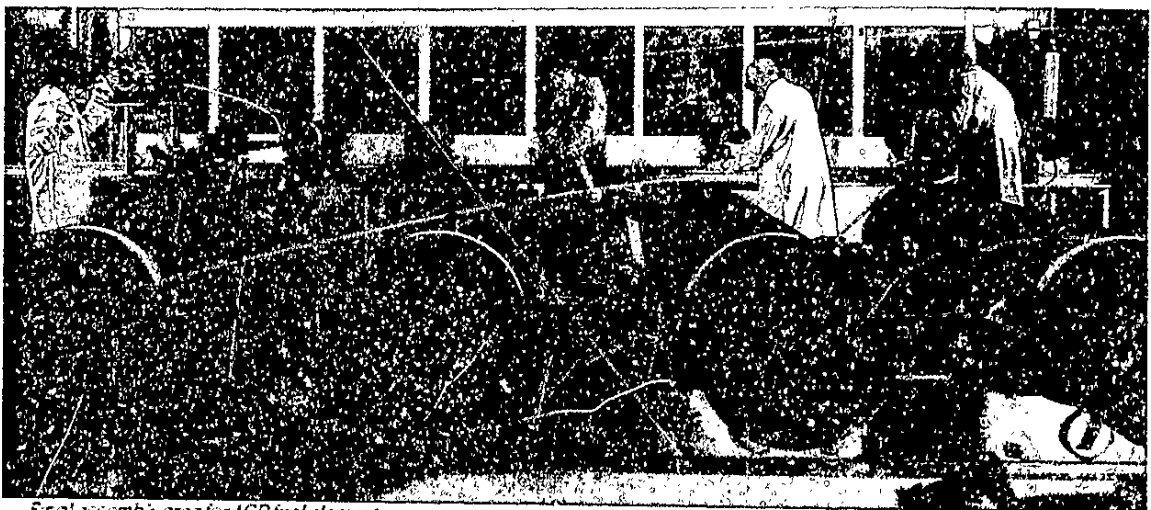
AGR fuel pins more efficient. Failure rates of AGR fuel are very low: four pins out of the 1.5 million loaded.

An improved design of fuel assembly (Stage II) is under manufacture on a robotic welding line for the new stations at Heysham and Torness. Initial charges of fuel have now been supplied for the first reactor at both stations.

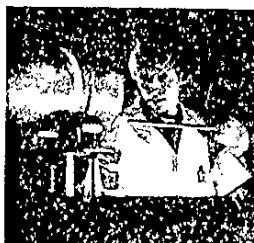
The investment programme of recent years has included a significant expansion of light water reactor (LWR) fuel fabrication capability at

Springfields, including additional pelletizing capacity and a canning and assembly plant using technology licensed from Westinghouse.

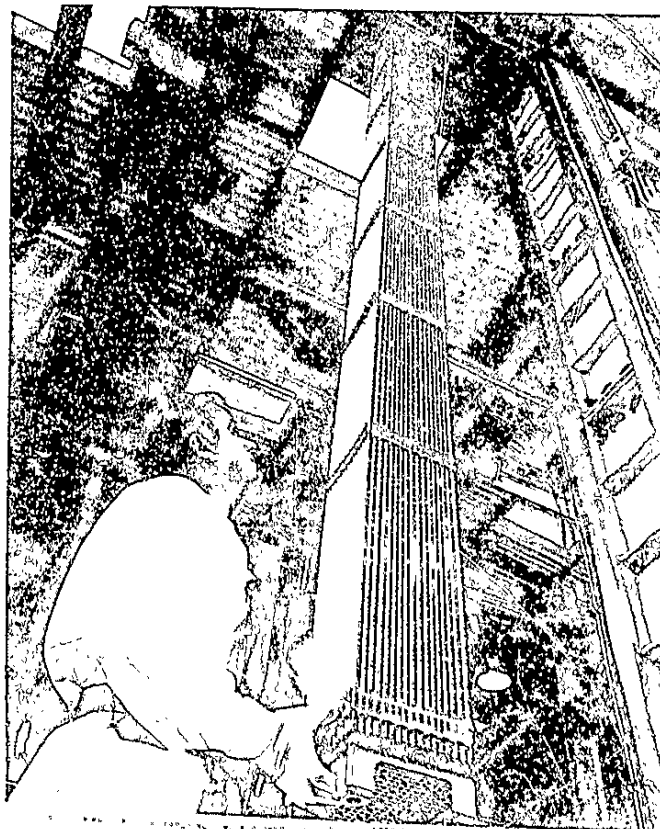
A second rotary kiln plant to produce uranium tetrafluoride is now under construction, based on the first plant which has been operating for some seven years. The process was developed at Springfields and has proved to be more efficient and cost effective than earlier technology.



Final assembly area for AGR fuel elements



Inserting a fuel pin into AGR fuel element



Susan
technician
in the
laboratory

BRITISH NUCLEAR FUELS plc
ENRICHMENT

BNFL's programme of civil uranium enrichment is carried out in collaboration with Urenco, a Western European Enterprise established in 1970. Through Urenco, BNFL is in partnership with West Germany and the Netherlands in the development, design and construction of enrichment plants and the marketing of the product.

Enrichment is an essential process in the manufacture of fuel for most nuclear reactors worldwide. Enriched fuel contains an increased proportion of uranium 235, one of the two main uranium isotopes, making the fuel more efficient and giving a more economic use of uranium. The process of increasing the proportion of U235 – the enrichment process – and all the necessary research and development has been carried out at Capenhurst for more than 30 years, with Capenhurst always at the forefront of enrichment technology.

BNFL was one of the first organisations to develop the process now used – the centrifuge process – on an industrial scale. The process involves spinning uranium in a gaseous form (uranium hexafluoride) in a centrifuge operating at extremely high speeds. The enriched and depleted streams are drawn off and the

separation process repeated through a series of centrifuges until the required enrichment is achieved.

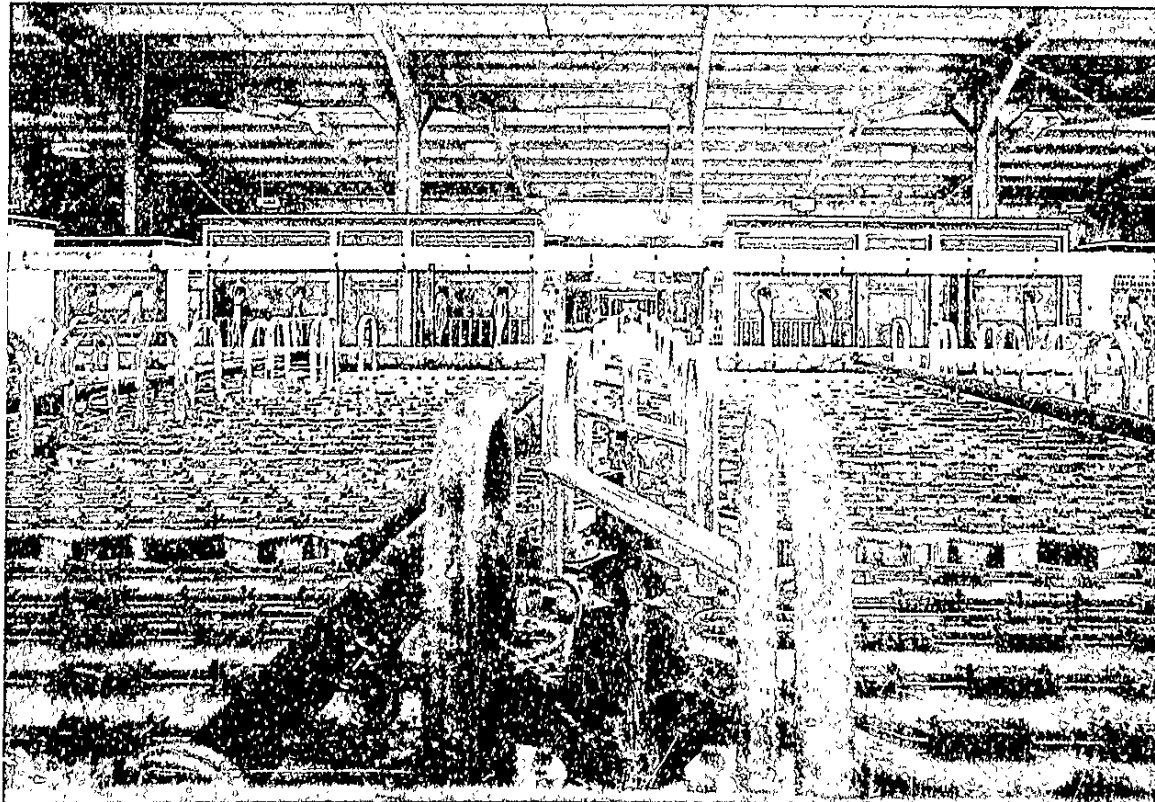
The first commercial plant started operation in 1977 at Capenhurst, with a second, similar plant completed in 1983.

The performance of the centrifuges, which are designed to operate without maintenance, has been excellent. A more advanced design of centrifuge with higher output than the earlier designs is now being installed in a third plant at Capenhurst and a fourth plant, incorporating further improvements in centrifuge design, is scheduled to be commissioned in stages between 1987 and 1990. An advantage of the

▽ Two of the modern enrichment plants.



▽ Centrifuge cascade.



Susan Treanor is a technical assistant in the environmental laboratory.

ENRICHMENT

[CONTINUED]

centrifuge process is that the machines can be installed in phases to match the market.

A substantial part of the manufacture of the centrifuges is carried out at Capenhurst where they are all assembled.

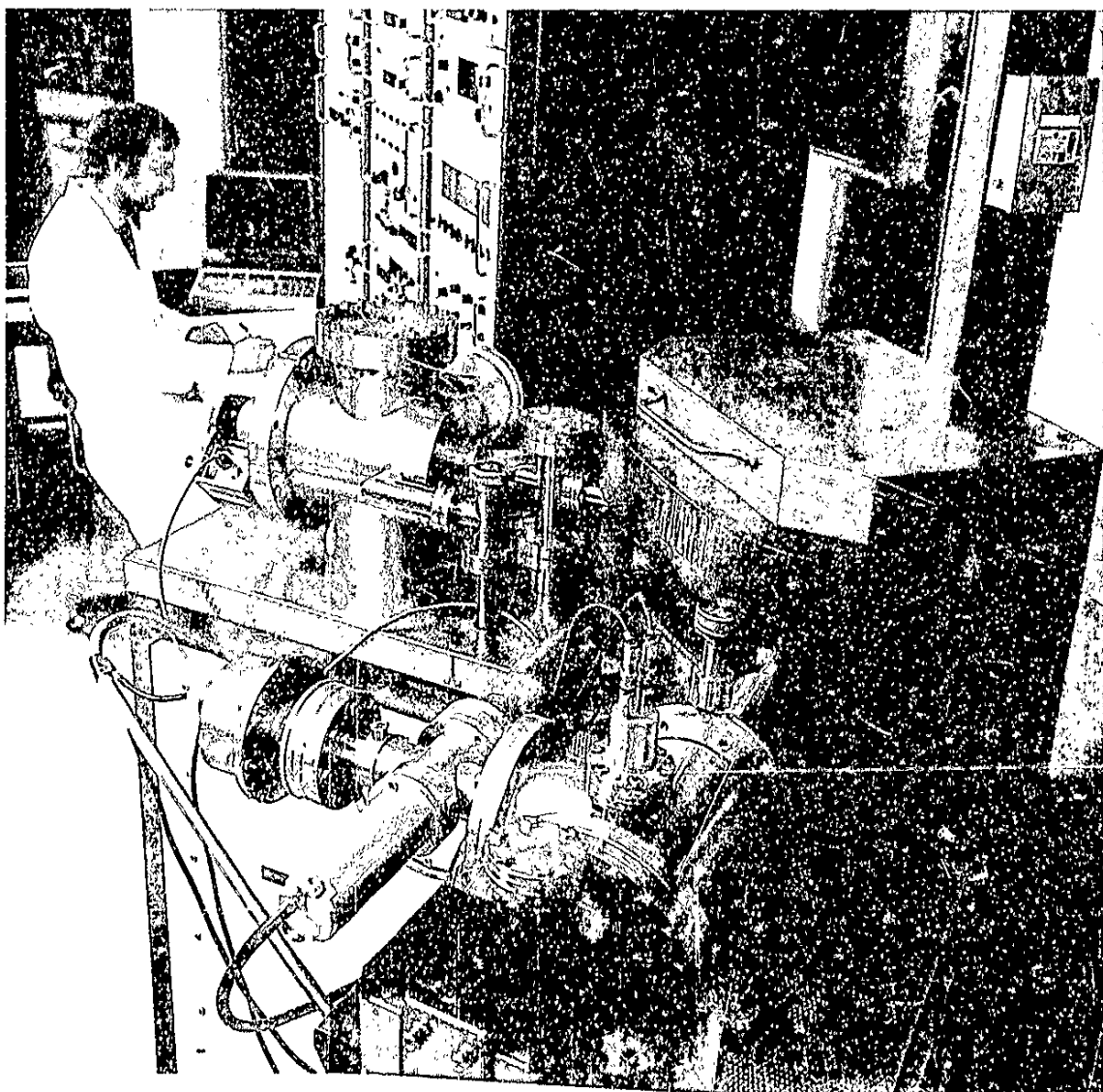
Major new contracts for the supply of enrichment worth £250 million were signed by Urenco during the year. One-third of the work will come to Capenhurst. Following the major breakthrough last year into the highly-competitive American market, Urenco has gained a further contract with an American utility – the Sacramento Municipal Utility District for their Rancho Seco reactor. Other major contracts were for the fuelling of the Beznau 1 reactor in Switzerland and for the CEBB in the UK which Urenco already supplies with most of its enrichment requirements.

The increasing Urenco order book has meant that since the first commercial plant began operation

there has been a continued programme of plant construction and centrifuge machine building.

While it is anticipated that centrifuge technology will provide the most economical enrichment service through to the next century, extensive research into laser technology is being undertaken by the Company and its partners in Urenco.

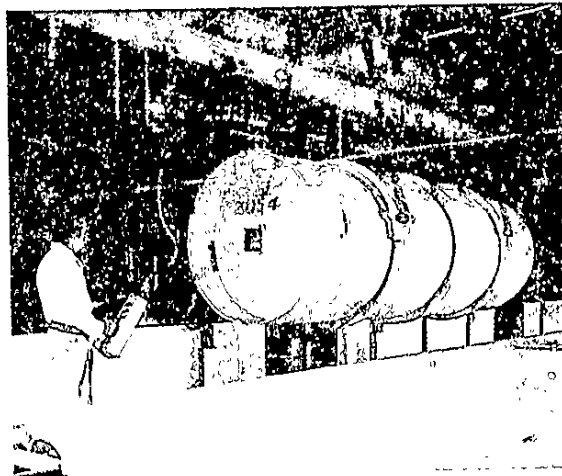
During the year the A3 Plant commenced operation ahead of schedule. This plant produces all of the low enriched uranium that the Ministry of Defence requires for the foreseeable future. The product from this plant is uranium hexafluoride and is neither of the enrichment level or form suitable for nuclear weapons use. This is an important project at Capenhurst in terms of employment and its early operation is a significant achievement for the site.



Using mass spectrometry to measure uranium isotopes

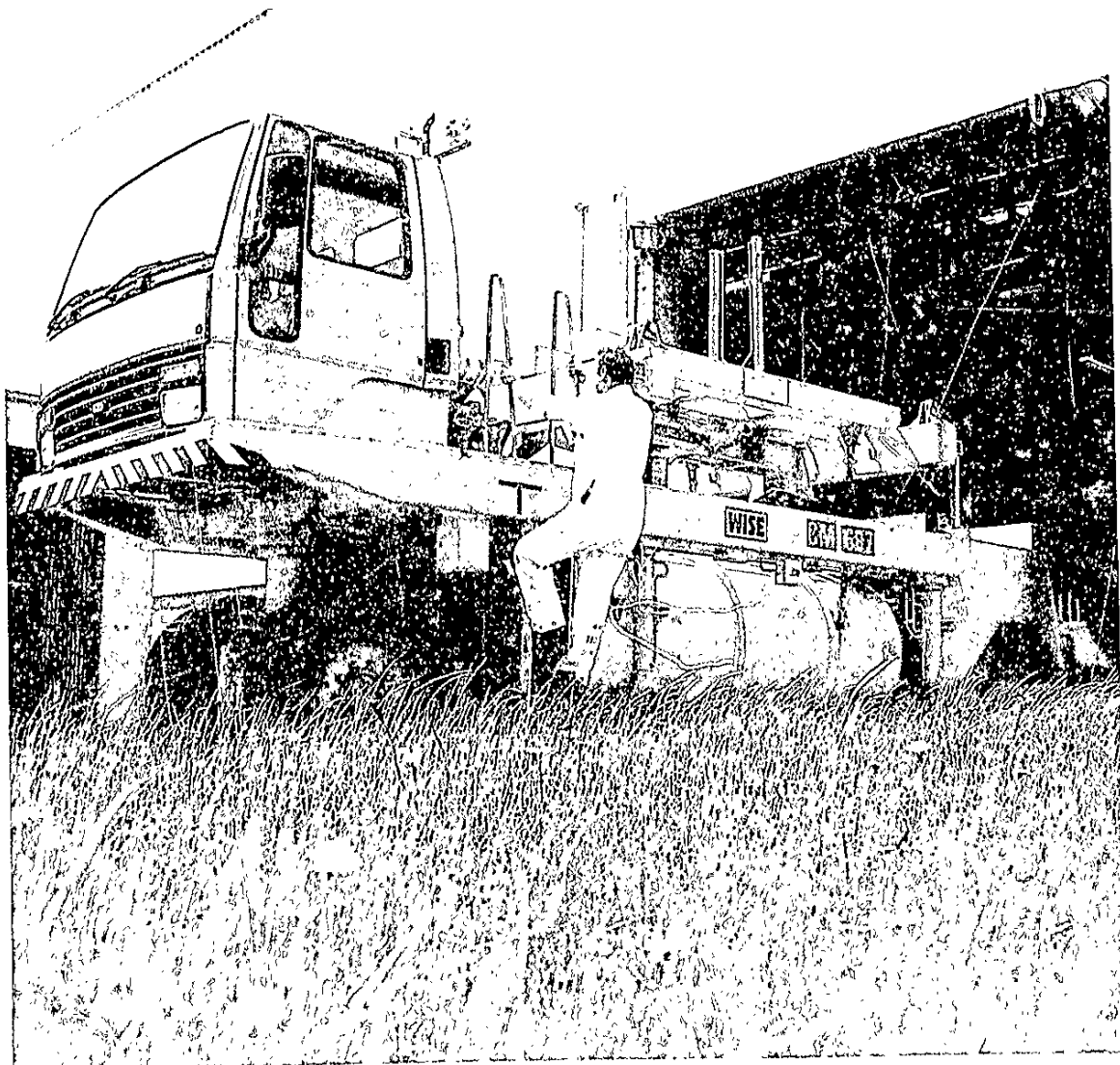


1. Laboratory for testing environmental samples.



2. Handling a uranium hexafluoride container in a centrifuge enrichment plant.

119



3. Transporting a container of uranium hexafluoride at Capenhurst.

Reprocessing is an important part of the nuclear fuel cycle. During more than 30 years of operations at BNFL's reprocessing plant at Sellafield in West Cumbria, more than 25,000 tonnes of Magnox fuel have been reprocessed allowing valuable uranium and plutonium to be reclaimed. At the same time waste products, which account for between one and three per cent of the total weight of the irradiated fuel, are separated for safe storage.

Two Divisions look after the Company's reprocessing activities. Reprocessing Operations Division is responsible for the operation of the

Sellafield site including the Calder Hall and Chapelcross nuclear power stations, while the design and project management responsibilities for the £2,500 million capital investment programme at Sellafield are the responsibility of Reprocessing Engineering Division.

Spent fuel arrives at Sellafield in heavily shielded flasks. After removal from the flasks it is stored underwater for a prescribed amount of time for

cooling and to allow some of the radioactivity to decay. The outer cladding of the fuel is then removed and the bare fuel bar dissolved in nitric acid so that the uranium, plutonium and waste products can be separated from each other.

The recovered uranium can be returned to the customer, stored, or sent to fuel fabrication plants for re-use. 75 per cent of the AGR fuel produced to date has used recycled uranium. Plutonium is made into fuel for use in the UKAEA's Prototype Fast Reactor at Dounreay, returned to the customer under international safeguards, or stored for use in a future fast reactor programme or to replace enriched uranium in existing types of reactor. Highly-active waste is concentrated for further treatment and storage in specially constructed stainless steel tanks with double walls which are totally enclosed by two metres of concrete. Each tank has an elaborate cooling system and standby tanks are also available if required.

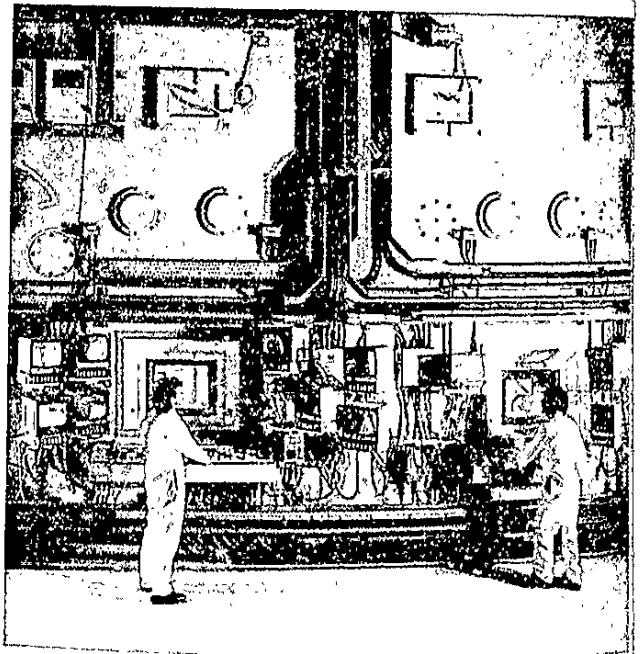
Storage in liquid form has been a safe option for 30 years but this waste will be even safer in solid form and a plant is being built at Sellafield to convert this highly-active liquid waste into a glass for eventual long-term disposal. The vitrification process involves evaporating and drying the highly-active waste to a powder form, mixing it with glass-making materials and heating it in a furnace. The molten glass, incorporating the waste, is cast into a container, fitted with a lid and sealed by automatic fusion welding. It is the intention to store the containers in an air-cooled store for at least 50 years, to allow heat generation and radiation levels to reduce and aid eventual disposal.



David Benson is a process worker in the Fuel Handling Plant.



△ A control room in the Fuel Handling Plant.

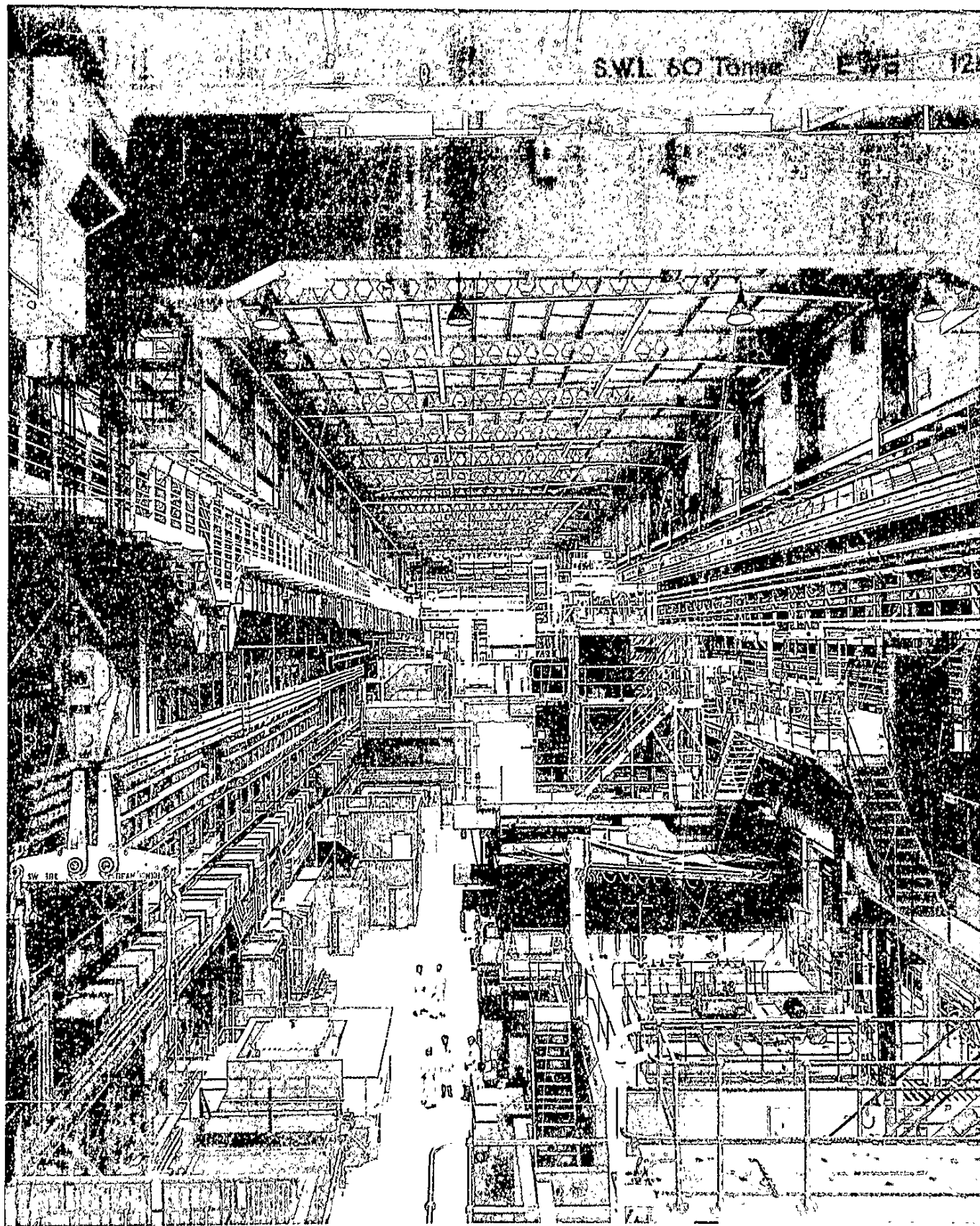


△ Monitoring operations in the Fuel Handling Plant on closed circuit television.

The plant is being built in two phases, phase one of which is now 35 per cent complete and should be completed to programme by the end of 1986. The mechanical installation contract for phase two has been let and pipework is now being installed. The plant is scheduled to be operational by 1989.

Meanwhile a full-scale inactive plant has been constructed to develop operational techniques and provide advance training for operators. The area of the plant dealing with fitting and sealing the lid was completed during the year.

The investment programme at Sellafield also includes plants to deal with other types of waste. Intermediate level solid wastes including cladding material stripped from Magnox fuel elements, sludges from various storage ponds, spent ion exchange



SWL 60 Tonne

EWP

12

SW 100

TEAM 1000

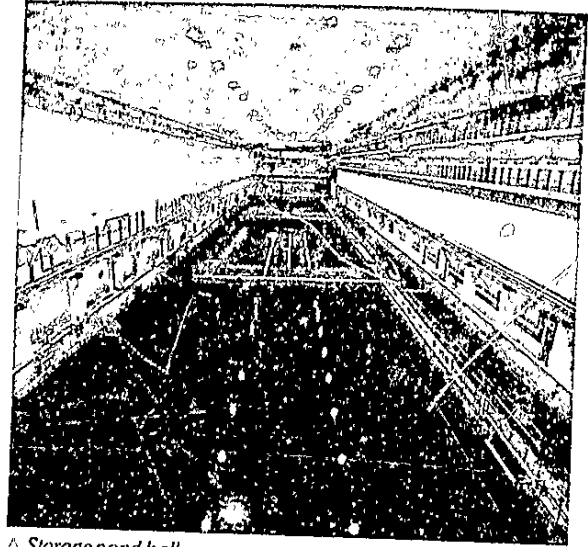
SWL 60 Tonne

BRITISH NUCLEAR FUELS plc
REPROCESSING
[CONTINUED]

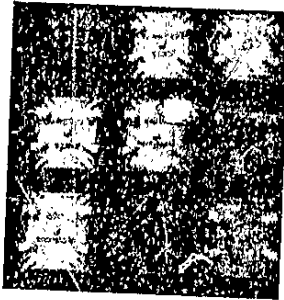
material from SIXEP and solid waste from THORP will be encapsulated in cement. Construction of the first plant, designed for Magnox swarf and required for operation by 1989 is proceeding, together with a store capable of holding 11,000 drums of encapsulated waste. A second plant is intended to deal with waste from THORP and sludges from various other plants and additional storage modules will be built as required.

Low level solid wastes are sent to the Drigg disposal site operated by BNFL. They comprise used clothing, paper and scrap metal and are buried in deep trenches covered with rubble and soil. The site is now about half full and during the year the Nuclear Industry Radioactive Waste Executive (NIREX) announced four sites which they propose investigating to provide a further low level repository.

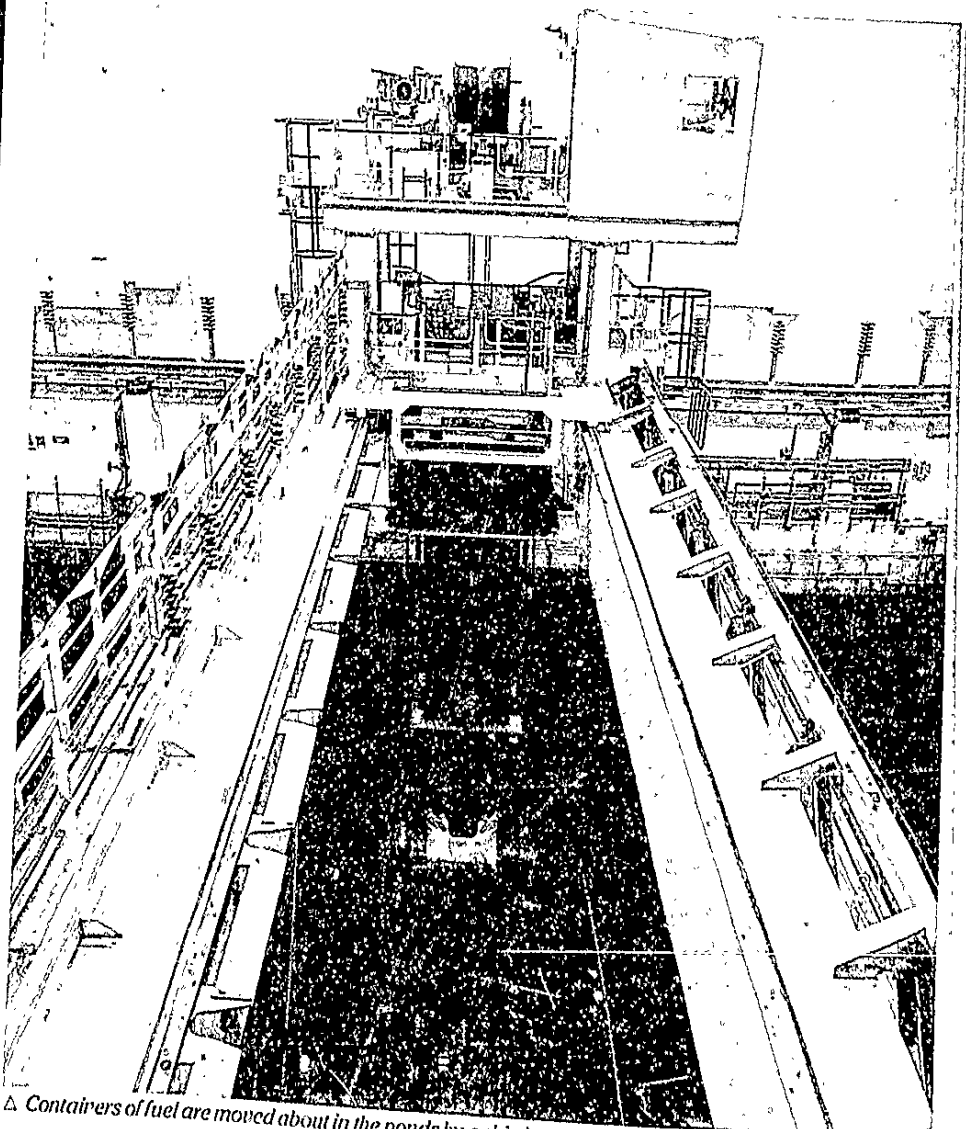
Designs are underway for the further effluent



△ Storage pond hall.



△ Fuel is stored in the ponds in specially-designed containers.



△ Containers of fuel are moved about in the ponds by a skip handler.

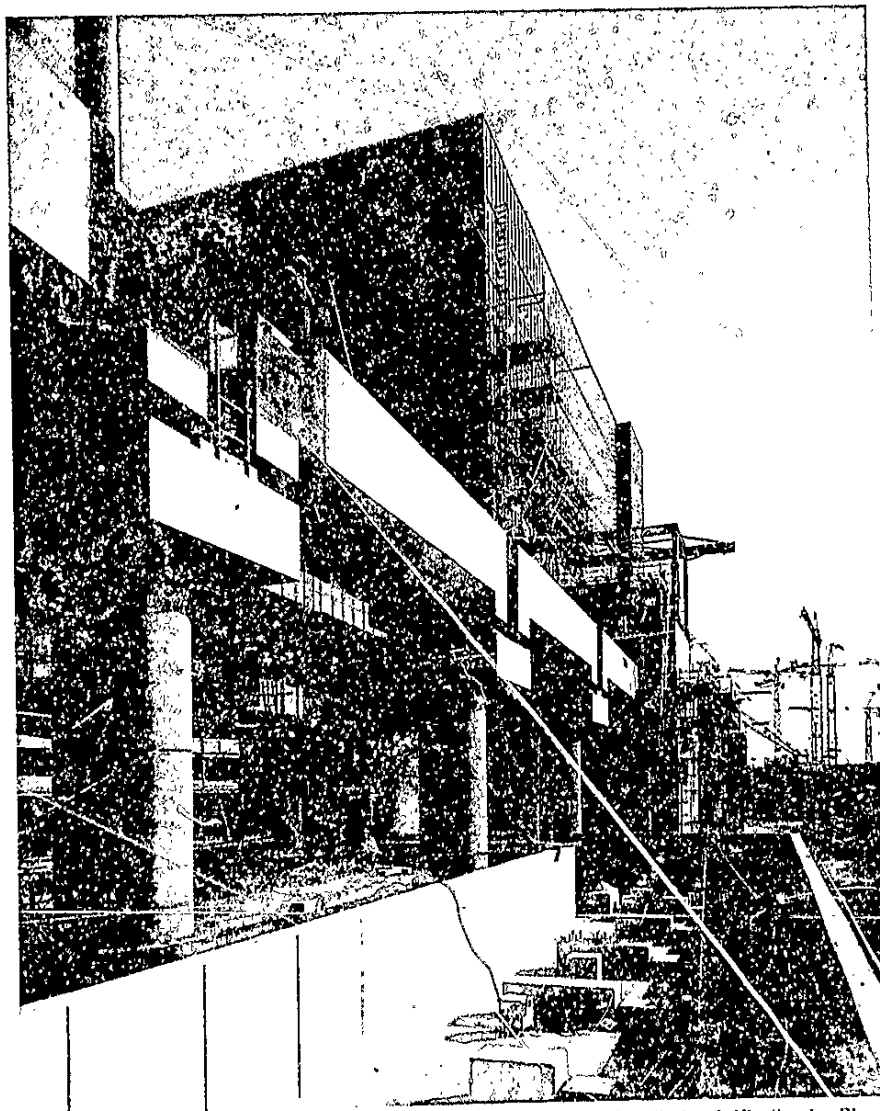
treatment facilities announced last year. The plants are being designed and built for operation in the early 1990s. They will play a major part in helping to reduce discharges from Sellafield to a fraction of their peak levels. A major development programme is in progress on the techniques to be used.

Already less than 0.1 per cent of the total waste arising from reprocessing operations is discharged to sea and to the atmosphere. New plants introduced at Sellafield during 1985 (the Site Ion Exchange Effluent Plant and Salt Evaporator) have proved extremely successful with liquid radioactive discharges in 1985 only half the previous year's figure.

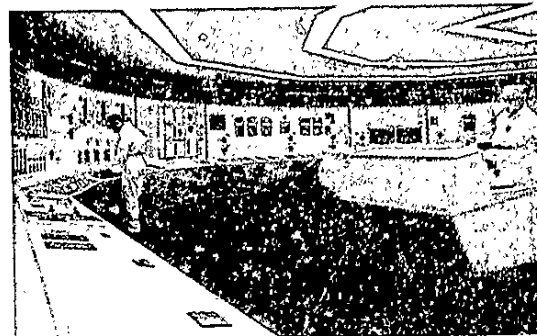
The Fuel Handling Plant, part of the refurbishment of the Magnox reprocessing operation, was commissioned during the financial year. The plant, officially opened in November 1985 by the Prime Minister, is now operational for Magnox fuel and the AGR fuel dismantler is being commissioned.

A milestone is reached in 1986 with the 30th birthday of Calder Hall, the world's first industrial-scale nuclear power station. Both Calder Hall and Chapelcross power stations continued to operate well with a total electricity generation of more than 90,000 million kWh, equivalent to the electricity which could be obtained from over 44 million tonnes of coal.

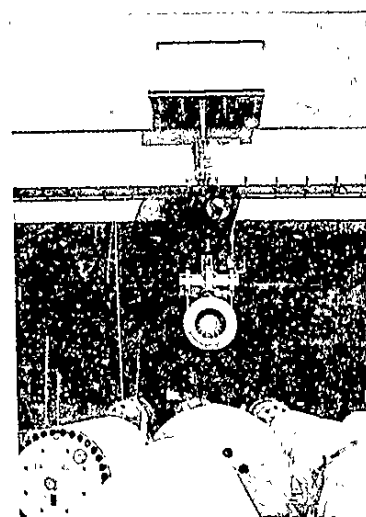
The £2,500 million capital expenditure programme at Sellafield is making it one of the largest construction sites in Europe today. To manage it the Company has one of the largest concentrations of engineering design expertise in Europe at its Risley Head Office and engineering design centre where the advantages of an ideal design office environment and modern techniques such as computer-aided design are available. 1,200 designers are directly employed by BNFL and in addition a further 2,000 engineering staff from over 40 design organisations work on



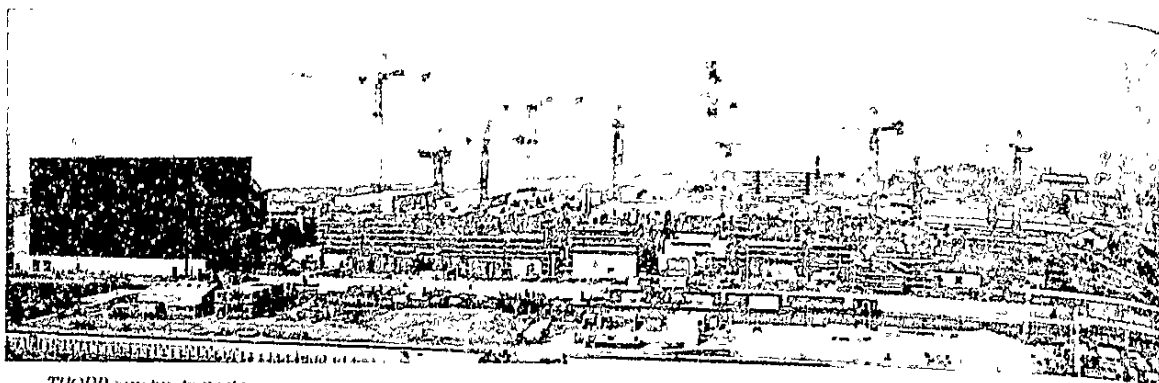
A pipebridge will link the highly-active waste store with the Windscale Vitrification Plant.



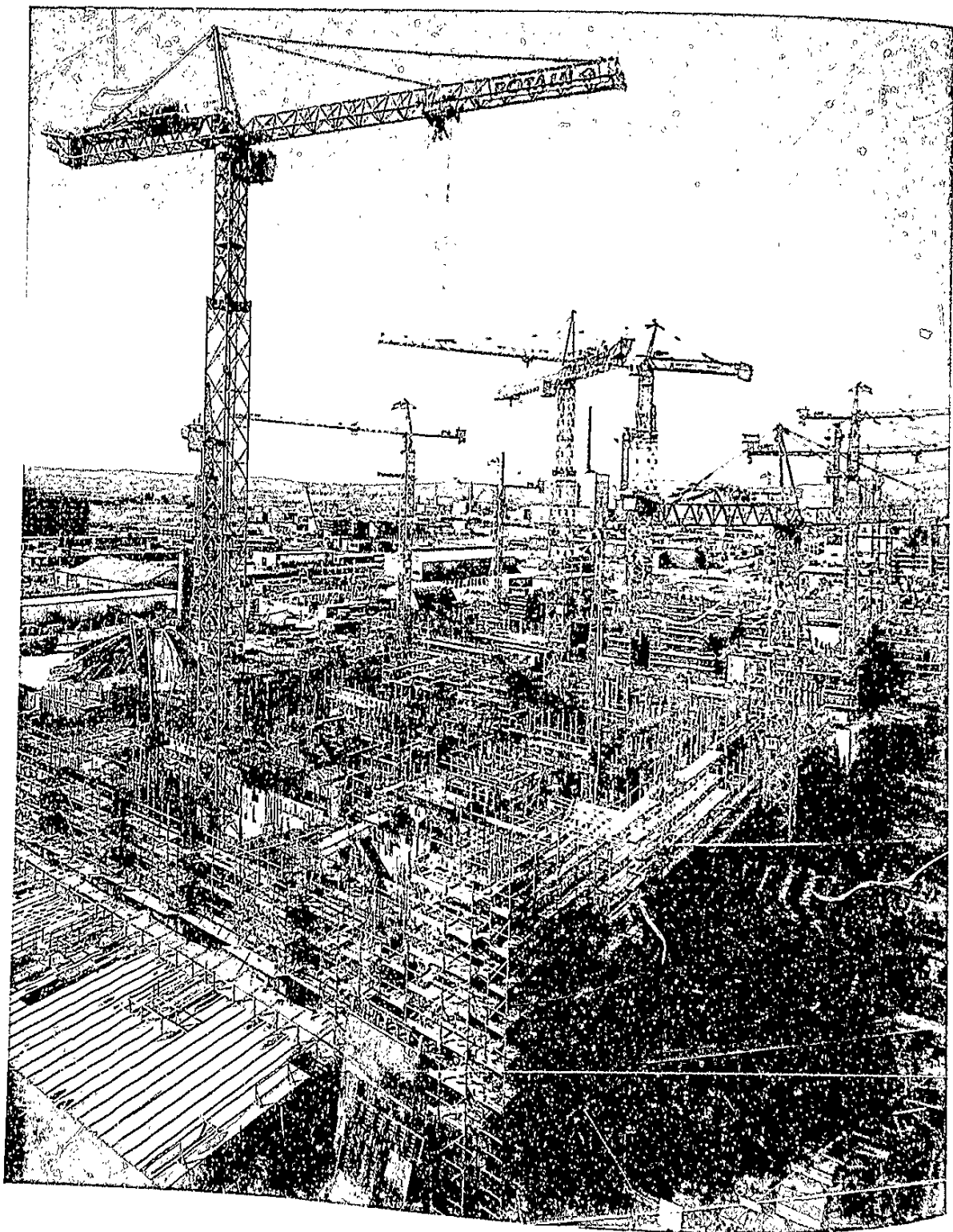
△ The control room in SIXEP.



△ Excellor flasks outside the new flask maintenance building.



THORP construction site



BRITISH NUCLEAR FUELS plc
REPROCESSING
[CONTINUED]

contract to BNFL. In total the Reprocessing Engineering Division has access to the complete range of engineering disciplines which it needs to design the process plants and manage the various construction projects.

The largest project by far is the £1,350 million Thermal Oxide Reprocessing Plant (THORP) for the reprocessing of uranium oxide fuel from both the UK's AGR programme and from LWRs overseas. Plant necessary to support the THORP operation will cost a further £300 million.

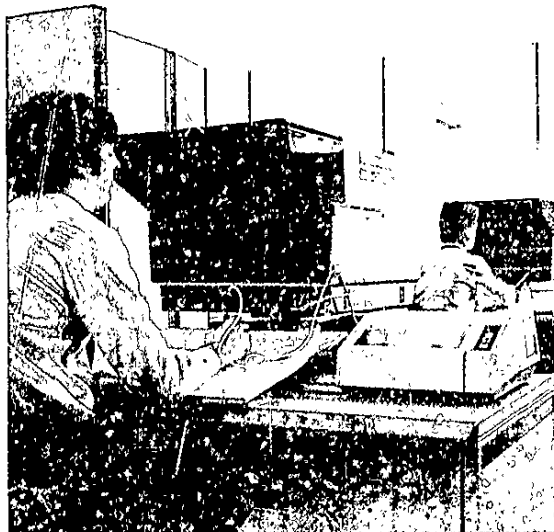
All the 6,000 tonnes capacity over the first 10 years has already been taken up, two thirds by overseas utilities in eight countries in Europe and Japan. These contracts, to which BNFL is committed, have a value of more than £2,700 million including transport, providing a valuable source of foreign revenue for Britain.

The contracts for the reprocessing of fuel from the two domestic UK utilities with a value of £1,600 million were signed in April 1986, as well as a letter of intent to reprocess AGR fuel during the second decade of THORP operations.

Construction of THORP is now well advanced with a construction labour force exceeding 1,600.

The first part of the plant to be available will be the fuel receipt and storage facility and during the year the storage pond has been successfully tested. The main areas of activity here now concern the installation of plant and equipment, pipework, instrument and electrical systems.

Significant progress has also been made during the year on the Head End and Chemical Separation Plant. To date some 66,000 cubic metres of concrete



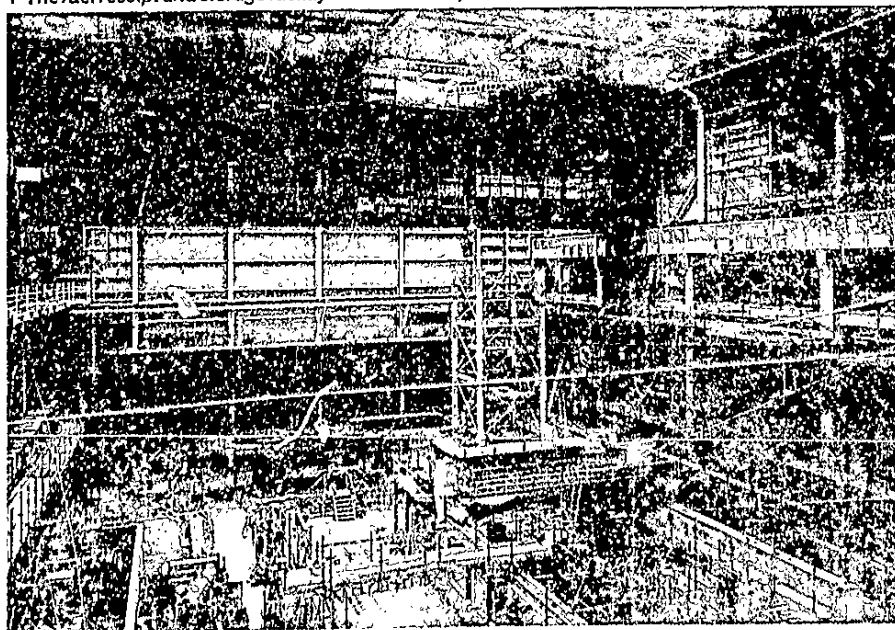
△ Computer-aided design is used extensively.

have been poured and many of the major items of plant and equipment are now being manufactured.

The massive construction programme at Sellafield, as well as attracting valuable overseas business, is responsible for underwriting some 50,000 jobs in British industry.

Following a number of incidents at Sellafield during the year the Health and Safety Executive announced that the Nuclear Installations Inspectorate would carry out a safety audit of operations at the site. BNFL welcomed the audit and has co-operated fully with the investigating team.

▽ The fuel receipt and storage facility will be the first part of THORP to be available.



BRITISH NUCLEAR FUELS plc
HEALTH AND SAFETY



△ Taking a reading from a static air sampler in the Fuel Handling Plant.

BNFL and its predecessors now have some 40 years' experience in dealing with radioactive materials which has led to a high level of awareness and safety. Its operations have always been kept within strict authorised limits and the Group also aims to keep any hazard as low as reasonably practicable.

The Company is subject to a high degree of external inspection and control. All its operating sites are licensed by the Nuclear Installations Inspectorate in accordance with the Nuclear Installations Act and radioactive discharges to the environment are authorised, depending on the location of the site, by the Ministry of Agriculture, Fisheries and Food, Department of the Environment and the Scottish Office under the Radioactive Substances Act. Radiation protection arrangements incorporated in these licences and authorisations are based on the recommendations of the International Commission

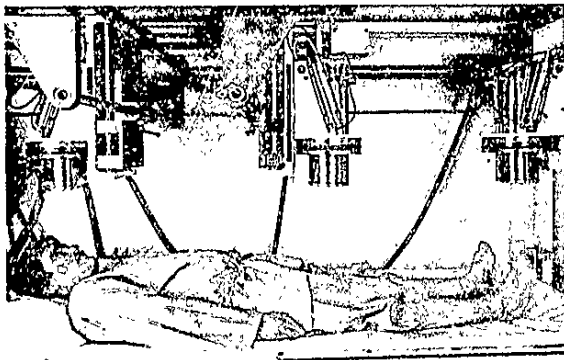
✓ Collecting seaweed near Capenhurst for analysis.



on Radiological Protection as endorsed by the National Radiological Protection Board.

The Company has safety and medical departments at each operating site which advise local management and arrange for appropriate monitoring and inspection to confirm that safety and environmental protection arrangements are satisfactory.

A safe environment on and around each site is achieved in several ways including careful plant design with shielding and containment where appropriate to reduce radiation exposure and with built-in safety systems; plant operating procedures to minimise radiation exposure; and monitoring of the workplace, of people, of the amount of radioactivity discharged and of the environment round the sites. Environmental monitoring involves taking and analysing thousands of samples a year such as water, silt, seaweed, seafoods and milk.



△ A whole body monitor.

In addition to BNFL monitoring programmes the Authorising Departments arrange for independent sampling and analysis, and both the Nuclear Installations Inspectorate and Authorising Departments visit the sites regularly and examine plant at design and construction stages to make sure that safety and waste management arrangements are satisfactory.

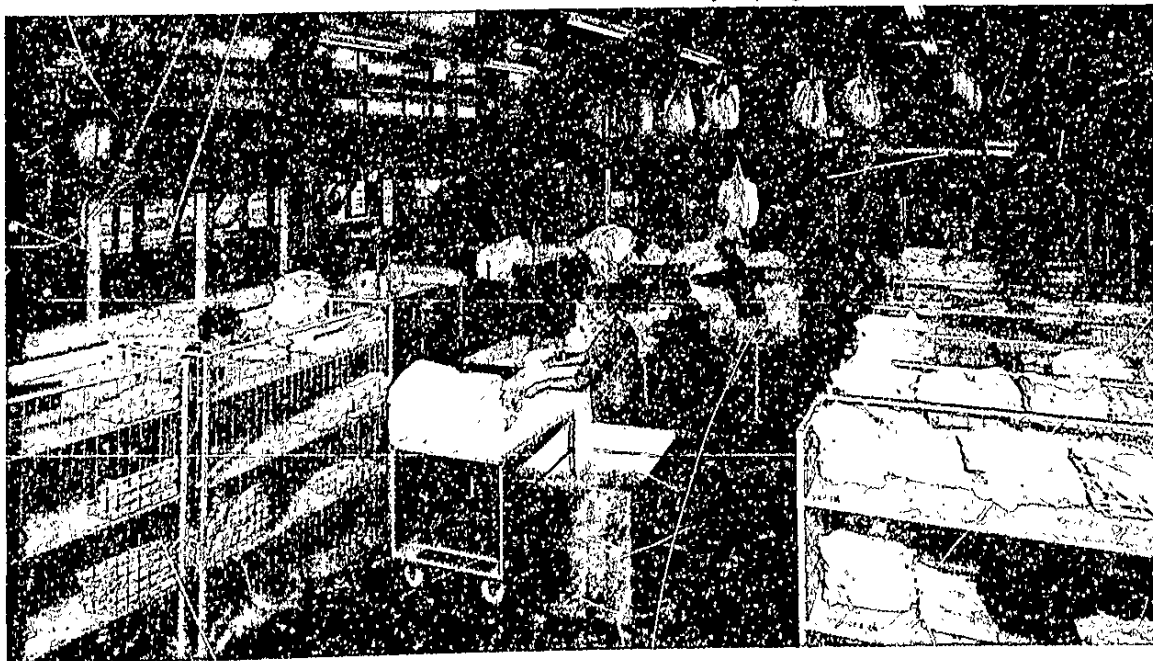
The Company average whole body radiation dose continues to be less than 5 mSv, a level regarded by the International Commission on Radiological Protection as equivalent to the average risk in safe industries.

New Ionising Radiations Regulations came into effect from January 1986. They are designed to ensure compliance with an EEC Directive which embraces recommendations of the International Commission on Radiological Protection and to replace existing UK legislation. The overall system of radiological protection operated by the Company continues unchanged and the main impact of the new regulations is some change of emphasis on monitoring of the workplace and on the details of statutory dose recording.

Discharges to the environment again continued the downward trend of the last ten years. Both alpha and beta discharges were down to half the levels of last year. Alpha discharges are now about three per cent of the peak level and beta discharges six per cent of the peak level.

New lower authorised limits for radioactive discharges were being discussed with relevant Government departments during the year.

▽ The laundry at Springfields.



TRANSPORT

BNFL is involved in the transport of nuclear materials during several stages of the nuclear fuel cycle, for example, uranium hexafluoride between Springfields and Capenhurst, new fuel from Springfields to various power stations and spent fuel from power stations to Sellafield.

Specially constructed containers known as flasks and designed to withstand fire, water and collision damage are used to carry the highly radioactive spent fuel to Sellafield. They weigh up to 110 tonnes and are made of steel or steel and lead with walls about one foot thick. Designs for all flasks must meet regulations laid down by the International Atomic Energy Agency and the Department of Transport must also approve their use.

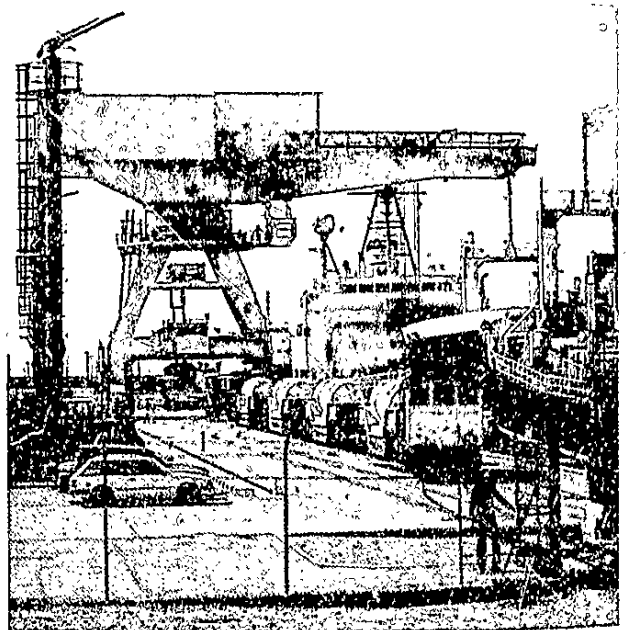
In addition to standard testing procedures using scale models and detailed mathematical calculations, the Central Electricity Generating Board have also tested full scale flasks, including a drop test and a collision with a train. In both cases the flask remained intact, and predictions from the scale model tests were proved correct.

To date over 7,000 flask journeys of spent fuel have been made from UK nuclear power stations to Sellafield without any accident involving damage to a flask. In addition, BNFL has 20 years' experience in the safe transport of spent fuel by sea, covering more than 1,200 flasks of fuel through Barrow, where it has a purpose-built terminal.

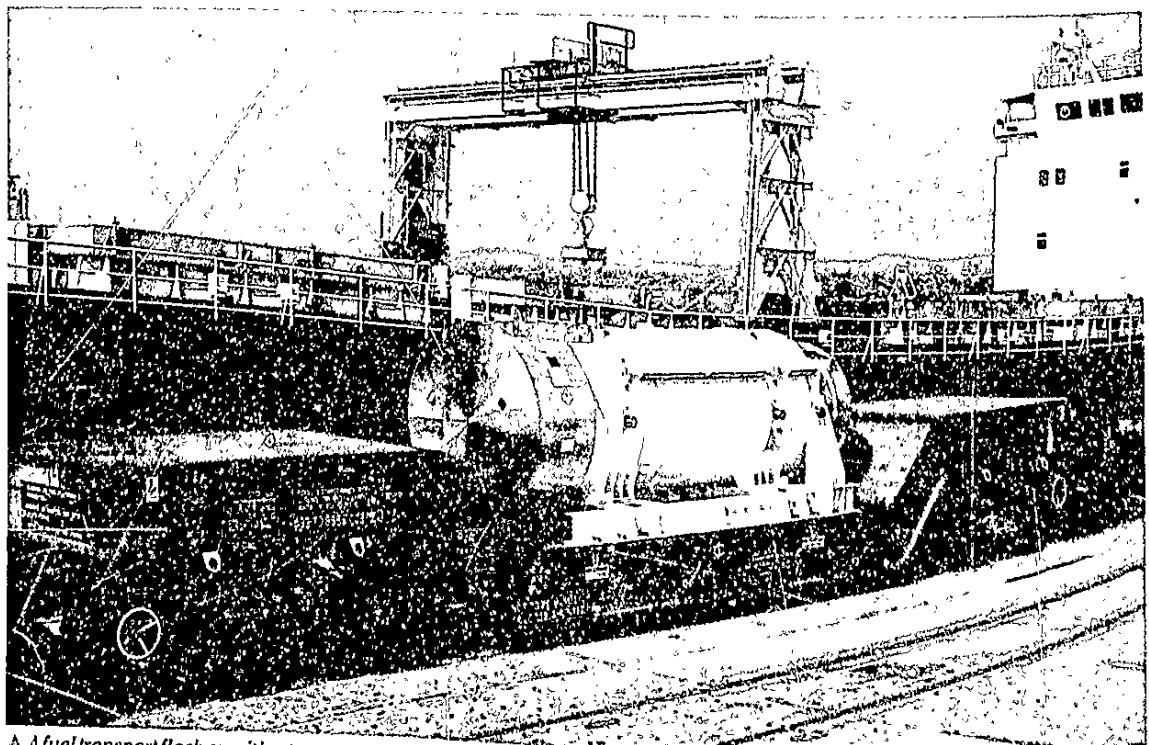
The Company responsible for the transport of spent fuel from Japan to Sellafield and Cap de la

Hague in France is Pacific Nuclear Transport Limited (PNTL) – a subsidiary of BNFL. PNTL was established in 1975 and BNFL owns 62½ per cent of the shares. During the year PNTL delivered 414 tonnes of spent oxide fuel to Sellafield and Cap de la Hague and also took delivery of seven new transport flasks.

Four specially designed nuclear fuel carriers are in operation on the Japan-Europe route, the latest



▲ BNFL's sea terminal at Barrow.

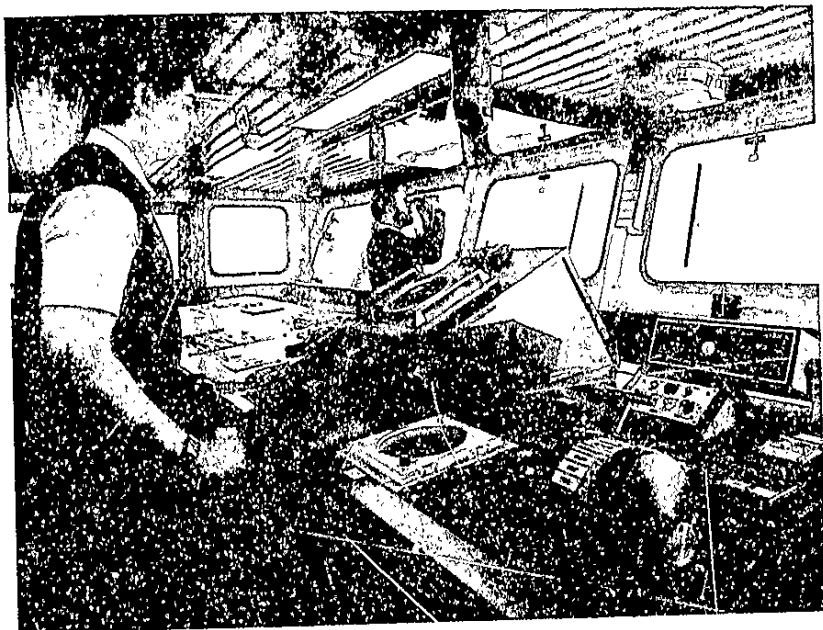


▲ A fuel transport flask awaiting transport to Sellafield.

of which – *Pacific Sandpiper* – was named during the year. Each ship has a nominal deadweight of 3,000 tonnes, can carry between 24 to 28 flasks and incorporates a number of special safety features.

BNFL itself owns and operates a purpose-built ship, the *Mediterranean Shearwater*, for the transport of spent fuel from European reactors which, since its introduction in 1982, has travelled more than 59,800

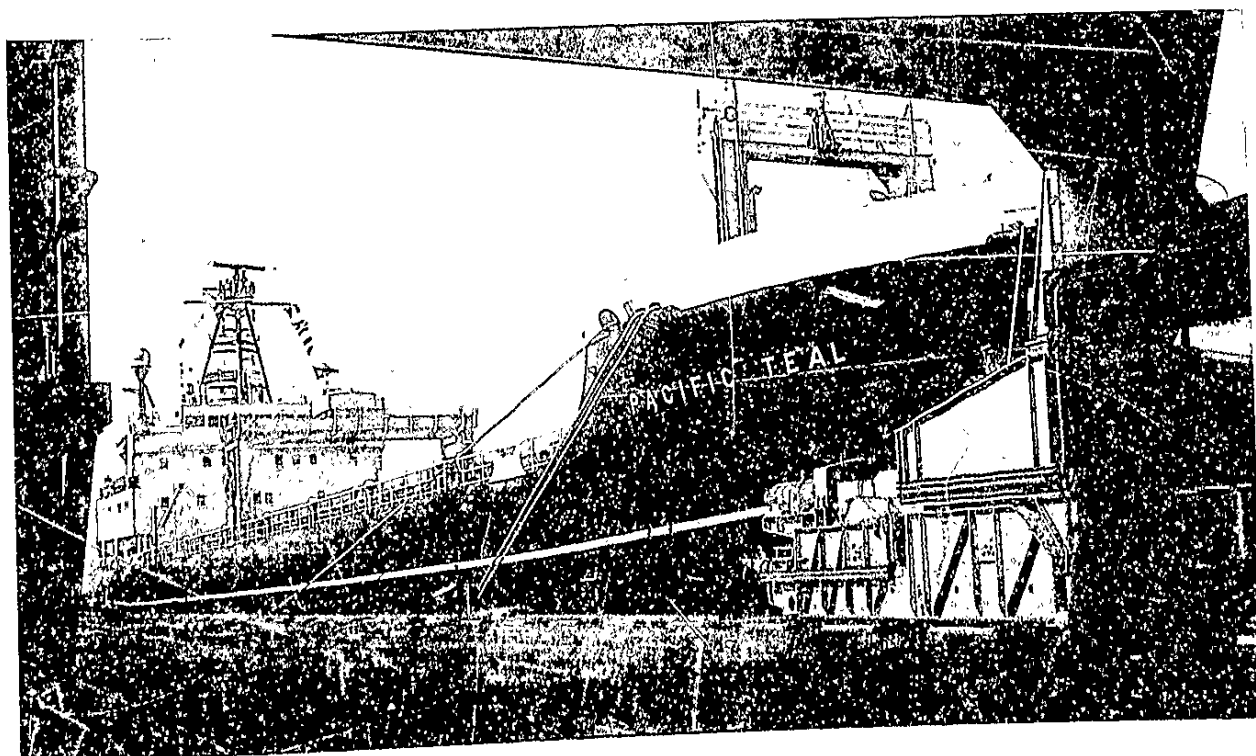
nautical miles. BNFL also has a 33 $\frac{1}{3}$ per cent shareholding in Nuclear Transport Limited which is responsible for spent fuel movements from European oxide-fuelled power reactors to Sellafield and Cap de la Hague. During the year NTL delivered 311 tonnes of spent oxide fuel to the two reprocessing plants.



△ The bridge of the 'Pacific Sandpiper'.



△ Satellite navigation equipment on the 'Pacific Sandpiper'.



△ The 'Pacific Teal' at Barrow.

BRITISH NUCLEAR FUELS plc
RESEARCH AND DEVELOPMENT

Some £55 million was spent on Research and Development in 1985/86 including work directly in support of operating plants, work in support of the design of future plants and speculative work to maintain the Company's longer-term competitiveness.

The large investment and operating programme at Sellafield is backed up by one of Britain's largest research and development departments directly associated with a production plant.

£36 million of the total was spent on reprocessing development, mainly on waste management research or development work in support of THORP.

A significant amount of work is on support for encapsulation plants to incorporate Intermediate Level Waste into a cement-based matrix for interim storage and disposal. This has involved extensive work to satisfy ourselves, and the regulatory bodies, that cement is the best encapsulating medium for these wastes.

Testing the physical properties and behaviour of encapsulated material (drop tests for example) together with long-term leach testing of cemented waste samples will ensure that the encapsulated wastes meet the high standards demanded for storage, transport and disposal.

Another significant area of waste management development concerns treatment of low-active liquid effluents in support of the Company's commitment to reduce sea discharges by the best practical means. Process and engineering development is well advanced for the preferred process, which uses floc precipitation to retain active materials.

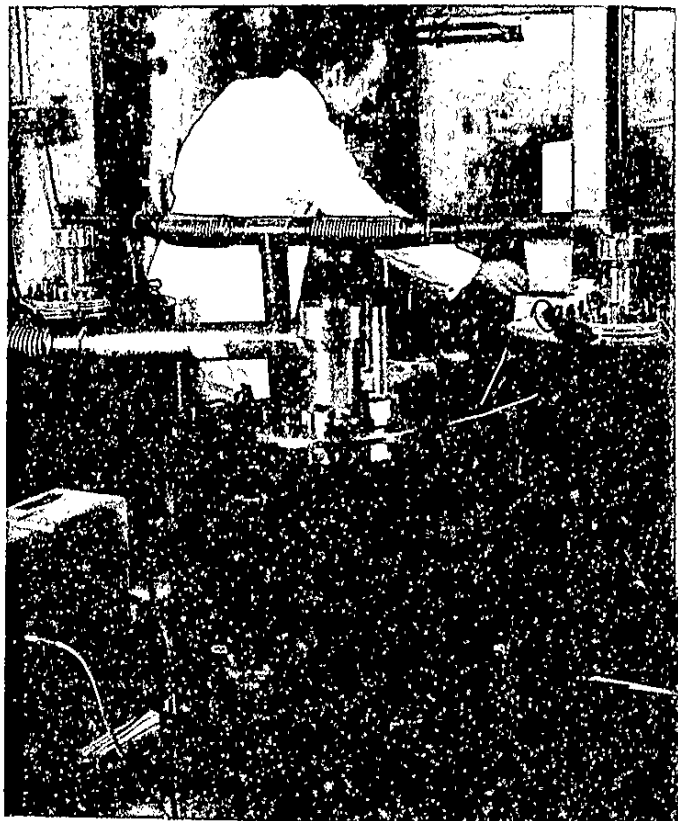
The second phase of the full-scale inactive vitrification facility (product container handling) became operational during the year. The plant now provides a testing ground for the whole process from waste feed to sealing the containers for transport to the store. Six campaigns were carried out on the plant during 1985/86, one of which was a 500 hour endurance test.

THORP development work cost about £8 million in 1985/86. Work continued on the miniature pilot plant which covers all parts of the production process on a 1:6250 scale. A further fully-active campaign, the first using fully irradiated LWR fuel, was carried out in 1985/86, making a total of five campaigns. Other major THORP rigs include the full-scale inactive pulsed column test rig and a full-scale fuel shear machine.

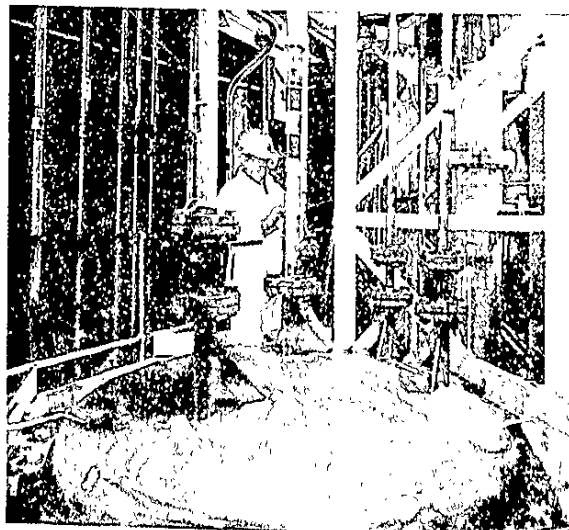
A new development was a pulsed column plant built and commissioned by the UKAEA at Dounreay with BNFL contributing to the capital and operating costs. The rig is on a sufficiently large scale to give

accurate data about plutonium behaviour, which will confirm the findings in the Sellafield miniature pilot plant and validate the design basis for full-sized columns.

In addition to work on specific projects, effort is also devoted to generic work including materials development, safety development, containment and ventilation and remote handling. This programme,



△ High-speed testing of centrifuge components.



Full-scale pulsed column test rig at Sellafield. ▸

amounting to £5 million during 1985/86, ensures that full advantage is taken of new developments so that the best possible technology is used in future plants.

Work on committed projects is backed up by technical groups comprising engineers and physicists with expertise in specialist areas such as shielding design, criticality assessment, stress analysis, heat transfer, fluid flow and seismic analysis.

At Springfields a wide range of scientists work on research and development including safety aspects, plant operational support and identifying ways of making the Springfields processes more efficient.

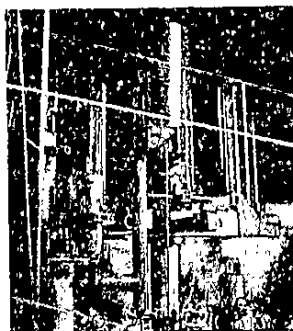
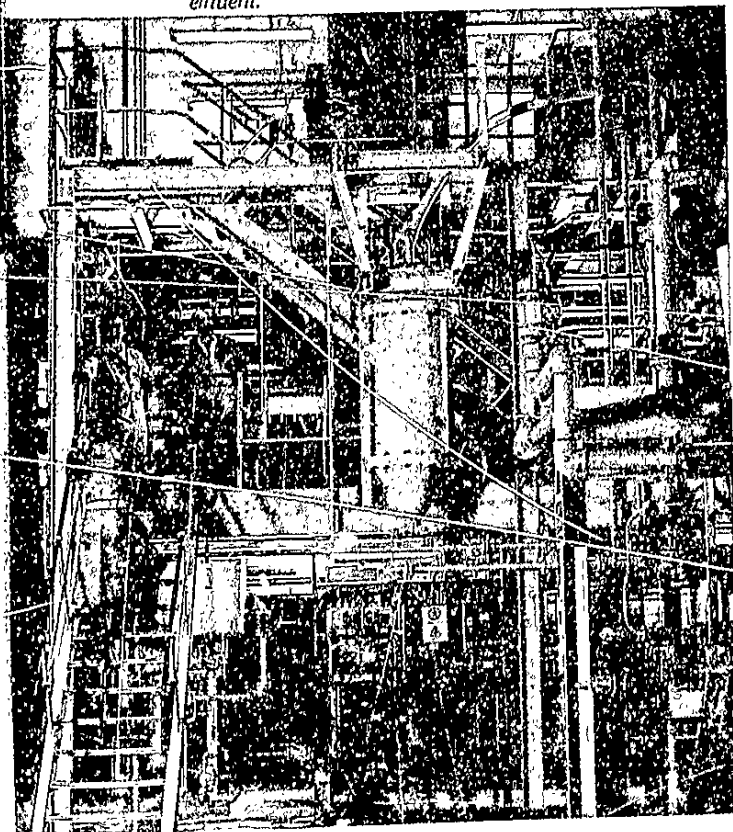
The work includes mathematical modelling and use of computing methods, simple laboratory experiments and pilot plants.

This year substantial effort has been devoted to oxide fuel development, both AGR and PWR, including development work on AGR granulation processes. A full-scale pilot plant is being designed and built in support of this work.

A new pilot plant was completed for use in research on chemical processes. Its first use will be as part of a programme to remove more natural radioactivity from liquid effluents.

The research and development programme which cost some £5 million in 1985/86 is aimed at

▽ A pilot plant to study the removal of radioactivity from liquid effluent.

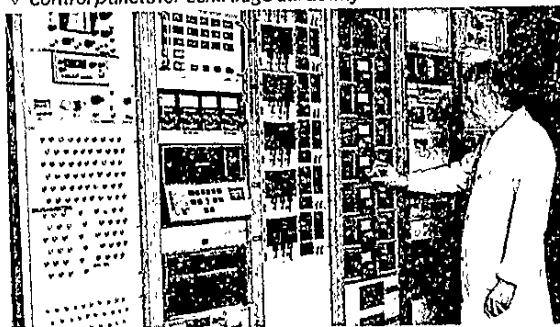


△ Test rig for fitting and welding lids to vitrified product flasks in the vitrification pilot plant.

making Springfields' processes safer and more cost effective as well as improving quality.

Research continues at Capenhurst on even more advanced centrifuge designs and on laser technology for uranium enrichment as well as on work to improve the efficiency of existing plants. The work involved is both theoretical and experimental, computers being used in many areas including the automatic operation of test rigs. Capenhurst's expertise in seismic investigations is acknowledged in other parts of BNFL as well as in outside industry and this, together with other work for reprocessing accounts for a significant part of the Capenhurst research and development effort.

▽ Control panels for centrifuge durability tests.



▽ Work on a rig to develop methods of taking samples from pipelines.



BRITISH NUCLEAR FUELS LTD PERSONNEL



Chris Halliwell, assistant plant manager, AGR machining shop, Springfield.



Ann Hopkins, receptionist and telephonist, Risley.



Mike Briggs, health physics monitor, Sellafield



Carmel Carrick, student on attachment to research and development department, Springfield.



Bill Bennett, group project manager in THORP project design office, Risley.



Jean Henry, personal secretary, Capenhurst.

The average number of people employed by the Group during the year was 16,285 compared with 15,678 in 1985. Some 6,500 of the total as well as 4,500 contractors work at Sellafield, the Company's largest site, with about 4,100 at Springfield, 2,700 at Risley, 2,300 at Capenhurst and some 700 at Chapelcross. Staff at all sites cover a wide range of skills and the workforce includes some 1,500 graduates, predominantly engineers.

The Company's policy is to employ disabled people wherever suitable work can be found. General career development, training and promotion opportunities, as with other employees are appropriate to their abilities but they are also given practical assistance, re-training and facilities appropriate to their special needs.

The Company places great emphasis on the development of employees to their maximum potential and they are encouraged to obtain appropriate qualifications to further their career development. Some 850 employees were granted additional leave and received assistance to follow further educational courses in 1985/86.

Part of this development is training and the Company has extensive training facilities at all its sites, 2,584 internal courses being organised during the year. In addition, employees are encouraged to attend appropriate external courses and training departments organised 3,314 attendances at such courses.

BNFL recognises the importance of providing young people with a job skill and has some 1,000



Brian Southgate, a manager in research and development, Capenhurst.



Andrea Henderson, second-year apprentice painter, Sellafield.



Richard Syms, engineer analyst team leader, computer applications group, Risley.



Eric Marsden, Magnox machine shop foreman, Springfields.



Beryl Bennett, assistant clerk-of-works on the Windscale Vitrification Plant site, Sellafield.

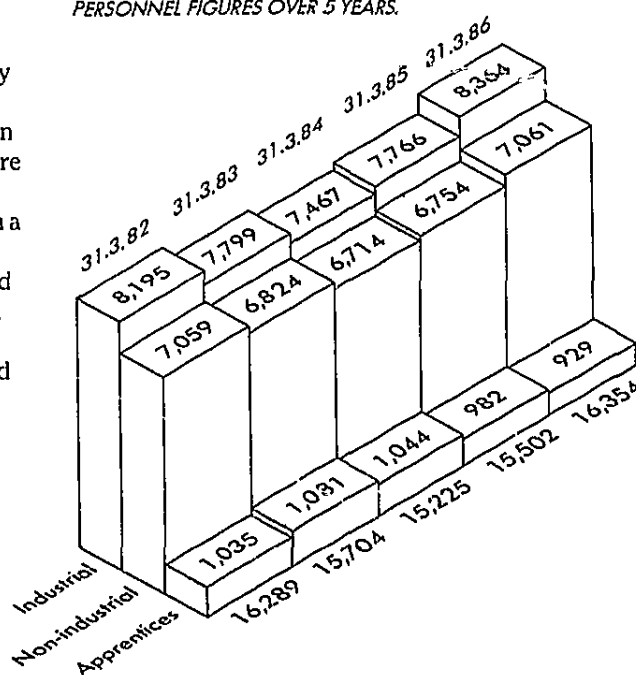


Susan Treanor, technical assistant, Capenhurst.

PERSONNEL FIGURES OVER 5 YEARS.

drawing and craft apprentices under training at any one time. In addition, the Company is training 28 junior process workers this year and participates in the Youth Training Scheme, through which 260 were employed during the year.

Employees of all levels are involved, through a well-established system of joint consultation and negotiation covering pay, conditions of service and other areas such as health and safety, catering and transport. The joint consultative machinery is structured from Company down to Works level and there is frequent informal contact between both sides.



BRITISH NUCLEAR FUELS plc
BNFL AND THE COMMUNITY

As a major employer in North West England BNFL aims to be a good neighbour to the communities who live and work around its sites.

This involves financial support for major civic projects as well as numerous small donations.

During 1985/86 some £122,000 was given to various national or local appeals and to local charities and organisations representing a wide range of interests.

Major donations are often part of several years of commitment and in 1985/86 recipients included three hospices, various educational foundations and appeals as well as organisations such as the UK Centre for Economic and Environmental Development.

A separate specific project this year was the £350,000 donation to Maryport, some 25 miles north of Sellafield, for the construction of an exhibition and museum (part of the Maryport Harbour scheme to attract industry and tourism).

Other beneficiaries during the year have included Whitehaven Rugby League Club who received financial help in the construction of new changing rooms; the sports pavilion in Annan, the Cumbria Trust for Nature Conservation for their reserve at South Walney and a conservancy area of peat moss near Risley for which a tractor was purchased.



△ Whitehaven rugby league club was one of the many recipients of sponsorship by BNFL in 1985/86.

Other community projects involve the use of manpower rather than a financial contribution. This frequently involves the Company's apprentices in various wide-ranging projects. Sellafield apprentices, for example, are refurbishing one of the boats in Maryport harbour.

At Springfields, apprentices are well into a programme of designing and manufacturing activity centres for handicapped children and at Capenhurst apprentices have made go-karts and tricycles for a school for handicapped children in Chester.

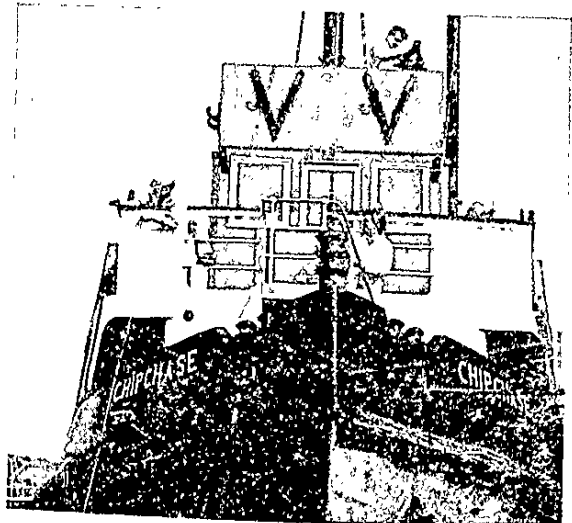
Apprentices are also encouraged to take part in local community and charity projects through the

Duke of Edinburgh Award Scheme or City Challenge, a scheme which includes projects to help the elderly, sick and handicapped.

BNFL has long recognised the importance of encouraging a better understanding and acceptance of industry and its essential role in the economy and community. The designation of 1986 as Industry Year emphasises the importance of these ideals and the Company is playing a full role in the activities concerned.

Local communities have an opportunity to find out about operations of BNFL sites through local liaison committees. Local authorities, health and emergency services, Nuclear Installations Inspectorate, Authorising Departments and BNFL are represented on these committees, which meet regularly. The largest of these is the Sellafield local liaison committee which meets in public and whose wide-ranging discussions about site operations and new developments are regularly reported in the press.

▽ Apprentice painters and fabricators restoring the tug 'SS Chipchase' at Maryport harbour



▽ Springfields apprentices renovating a windmill.



BRITISH NUCLEAR FUELS plc PUBLIC RELATIONS

Maintaining public support for BNFL's activities is vital to the Company's future success and growth. The events of 1986, with adverse publicity following a number of incidents at Sellafield, followed in April by the Chernobyl accident in the Soviet Union, have only underlined the need for effective communication with the public.

Many new initiatives have been taken this year. For the first time the Company has advertised nationally on television inviting the public to visit Sellafield and find out more about the Company and nuclear power. This has been supported by both local and national newspaper advertising.

The Company has stressed publicly the need to talk to the public in language they understand. Scientific terminology has often served to confuse the public in the past. BNFL is committed through a widespread programme of communications to bridge the undoubted gap that exists between the industry and the public.

The Company is also committed to an open and honest flow of information about its activities. It

welcomes dialogue with the anti-nuclear environmental organisations so that each other's point of view is known and better understood.

As well as advertising, a series of brochures, films and exhibitions has been produced and distributed on a wider scale than before. Through an established Talks Service, members of staff have given 448 talks to a wide range of organisations. The number of visitors to the Company's sites has increased - 31,199 last year - and is expected to increase further as a result of the Company's advertising.

Liaison with elected representatives, ranging from MPs and Members of the European Parliament to parish councillors, is also an important activity. The site liaison committees play a valuable local role in keeping the communities near our sites informed.

Communications with the Company's 16,000 employees is also a priority, and the latest techniques such as Viewdata technology have been employed to supplement more established methods such as the Company newspaper *BNFL News*.

BNFL has also expanded its promotional activities to its customers and potential customers around the world, participating in major exhibitions in the Far East and Europe, and by advertising extensively in the international nuclear press.

In common with other major nuclear organisations, the Company is supporting the Nuclear Electricity Information Group which is implementing a programme of national advertising, publications and other information material.

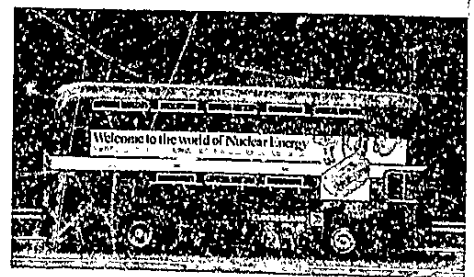
▽ A party of visitors in Sellafield's Fuel Handling Plant.



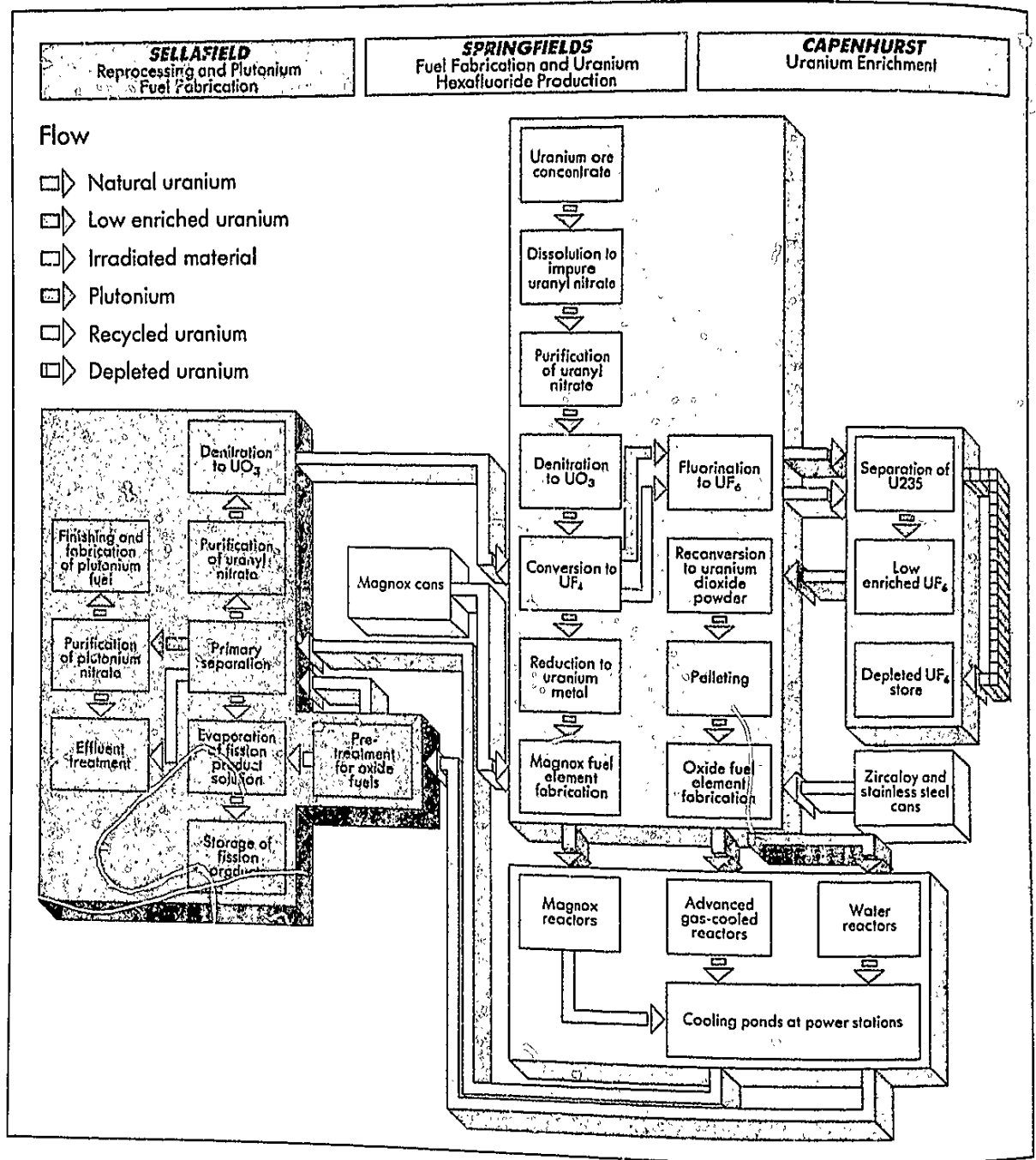
▽ The exhibition centre is widely advertised.

BRITISH NUCLEAR FUELS PLC
request the pleasure of
your company to view their Sellafield
Exhibition Centre.
Open from 10am-4pm every day of the week,
Easter - end of October
or 10am-4pm Monday-Friday,
November-March.
Sellafield Centre, 8 South New Road, Sellafield, Lancashire
(Off the A59) at Sellafield between A120 and A124

Thousands of people have already seen what's behind this invitation



BRITISH NUCLEAR FUELS plc
NUCLEAR FUEL CYCLE



BRITISH NUCLEAR FUELS plc
Sir John Hill Honorary President
BOARD OF DIRECTORS



Christopher Harding
Chairman



Neville Chamberlain
Chief Executive



Dr William Wilkinson
Deputy Chief Executive and
Director Spent Fuel
Management Services

Reprocessing Operations
Division
Reprocessing Engineering
Division
Spent Fuel Transport
Health and Safety
Directorate
Spent Fuel Management
Services Business Centre



Harold Bolter
Company Secretary
and Director
Corporate Affairs

Company Personnel
Risley Site
General Management
Information Services
Legal Department



John Hayles
Director Finance

Company Finance
Company Accounts
Purchasing Policy
Corporate Development
Strategy
Corporate Management
Services



Alan Johnson
Director Fuel
Supply Services

Fuel Division
Enrichment Division
Corporate Marketing



Roy Pilling
Director Technical
and Planning

Company Research
and Development
Short-term Planning
and Monitoring
Company Quality
Assurance
Security
Safeguards

Non-Executive Directors



Dr Thomas Marsham CBE



John Wills OBE

BRITISH NUCLEAR FUELS plc
REPORT OF THE DIRECTORS
FOR THE YEAR ENDED 31 MARCH 1986

1 The Directors of British Nuclear Fuels plc have pleasure in submitting to the Shareholders their Fifteenth Annual Report together with the audited Accounts for the year ended 31 March 1986.

2 The full accounts of the Group are set out on pages 40 to 61 and include, on a consolidated basis, the accounts of the Group Companies listed on page 57 together with the accounts of the UK Partnership through which the Group participates in the production of enriched uranium using the centrifuge process.

REVIEW OF THE YEAR

3 Group Results

Turnover at £629M has increased by some 15% from 1985 (£545M) with home sales improving by over 21% to £507M (1985 £417M) mainly on trading with the Home Boards, and exports at £122M only 5% lower than the record level set in 1985 (£128M). The improved home figures arose partly from an increase in volume, most notably in AGR fuel sales, and partly from price increases, but were lower than originally planned due to difficulties in maintaining outputs in the reprocessing area including the effect of delays in the commissioning and operation of the new Fuel Handling Plant at Sellafield.

Operating profits at £139M are largely unchanged from last year (£138M) despite the shortfall arising from the output problems and the provision of further amounts to meet future liabilities. In this area some £72M has been provided and charged against profits in the year (1985 £59M). Provision has been made for the ultimate disposal of intermediate level wastes following the incorporation of UK Nirex Limited which is to take responsibility for final disposal operations. Increased amounts have been provided to cover liabilities on fixed price overseas reprocessing contracts following a reassessment to allow for a share of the increased costs of effluent treatment associated with further reductions in radioactive discharge levels from the Sellafield site. (The increase in provisions in 1985 of £59M mainly related to the creation of a provision for the encapsulation and storage of intermediate level wastes). The effect of provision movements is very apparent on electricity generation and contributes largely to the much reduced profits in that area. Details of the provisions and long-term liabilities are given in Note 14 to the Accounts.

Increased expenditure on Research and Development plus increased financial charges, mainly due to additional borrowing necessary to finance the ongoing capital programme, have further

reduced profitability with profits before tax dropping to £44M (1985 £68M) and the return on shareholders' funds yielding only 14.5% compared to 27% in 1985.

On a current cost basis the profit before gearing adjustment, financial charges and tax is £76.2M (1985 £71M) and this represents a return on current cost assets employed of 4.0% (1985 4.5%).

4 Dividend

The Directors recommend that a final dividend of 12.75% should be paid making a total of 25% for the year.

5 Finance

- a Group capital expenditure of £446M (Parent £400M) has been incurred during the year, mainly on the continued upgrading of reprocessing facilities at Sellafield and on centrifuge enrichment plants at Capenhurst.
- b During the year the Parent Company borrowed £150M under a facility established with the European Investment Bank.

6 Activities

There were no significant changes in the main activities of the Group, which are:

a Nuclear Fuel Services

The conversion and enrichment of uranium; the manufacture and supply of uranium and plutonium based fuels and the provision of related fuel cycle services for nuclear power stations; and the reprocessing of nuclear fuel after use and associated waste treatment and storage.

b Electricity Generation

The supply of electricity to the English and Scottish grids from the Calder and Chapelcross nuclear power stations.

c Other Activities

These include research, development and the design and construction of plant and equipment associated with the Group's activities. Information on the activities and developments of the business of the Group during the year is contained in the Company Review, pages 7 to 36.

BRITISH NUCLEAR FUELS plc
REPORT OF THE DIRECTORS *CONTINUED*
FOR THE YEAR ENDED 31 MARCH 1986

FUTURE DEVELOPMENTS

7 The Group's principal areas of activity are expected to continue unchanged. Capital expenditure authorised at the end of the year was £1,676M of which contracts have been placed for £230M. The expenditure arises from the major investment programme of the Group, which is referred to in the Company Review. This programme totals £3,600M over the next ten years but a substantial part of its financing will be met from internally generated funds and advances from customers. External sources of medium and long-term finance needed to meet requirements in the next financial year are under review and negotiation. These and other future requirements will be supported where necessary by the provisions of the Nuclear Industry (Finance) Acts 1977 and 1981.

RESEARCH AND DEVELOPMENT

8 The Group has a significant research and development programme and this will continue. The principal areas are referred to in the Company Review on pages 30 and 31.

CORPORATE PLAN

9 The Group annually submits a forward Plan covering the next ten years to the Department of Energy. This is the mechanism by which the Department is notified of, and approves, the Group's projected programmes.

PERSONNEL

10 The average number of persons employed by the Group during the year was 16,285 (1985 15,678). Further information is given in the Notes to the Accounts on page 46, and in the Company Review, pages 32 and 33 which also deals with Employee Involvement and Employment of Disabled Persons.

THE BOARD OF DIRECTORS

11 The names of the Directors of the Group are set out on page 37. Mr C Allday retired from the Board on 31 March 1986 and he was succeeded as Chairman by Mr C G F Harding. Mr L N Chamberlain was appointed to the Board on 22 January 1986 and became Chief Executive on 1 April 1986. Dr N L Franklin, Mr J R S Morris and Mr W N Scott resigned from the Board on 5 September 1985, 28 November 1985 and 26 March 1986 respectively. All other Directors served throughout the year. Since 31 March 1986 two further Directors have retired - Sir Philip Shelbourne on 25 June 1986 and Mr J Tatlock on 30 June 1986.

12 Directors' Shareholdings and Interests

No Director held, at any time during the year, any share in, or Convertible Loan Stock of the Company, or of its subsidiaries, or of any related company (apart from holdings of shares as nominees in Combustibili Nucleari SpA by those who are Directors of that Company as required by Italian Law at that time). No Director had during the year any material interest in a contract which is significant in relation to the business of the Company or of the Group, although Dr T N Marsham was a full-time member and Mr C Allday and Dr N L Franklin were part-time members of the United Kingdom Atomic Energy Authority, which has a number of substantial contracts with the Group.

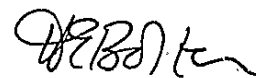
CONTRIBUTIONS FOR POLITICAL OR CHARITABLE PURPOSES

13 No contributions were made for political purposes. Contributions to charities during the year amounted to £117,000 (1985 £51,000).

AUDITORS

14 A resolution to re-appoint the Auditors, Coopers & Lybrand, will be proposed at the General Meeting.

By order of the Board
H E Bolter, Secretary
17 July 1986



BRITISH NUCLEAR FUELS plc
REPORT OF THE AUDITORS
TO THE MEMBERS OF BRITISH NUCLEAR FUELS plc

We have audited the accounts set out on pages 40 to 61 in accordance with approved Auditing Standards. The accounts on pages 40 to 57 have been prepared under the historical cost convention and the supplementary accounts on pages 58 to 61 have been prepared under the current cost convention as described in the notes thereto.

These accounts reflect the long-term nature of the Group's activities, as explained in the paragraphs on the Determination of Policies and Provisions and Long-term Commitments set out in the Accounting Policies on pages 40 and 41.

In our opinion the accounts on pages 40 to 57 give a true and fair view of the state of affairs of the Company and the Group at 31 March 1986 and of the profit and source and application of funds of the Group for the year then ended, and comply with the Companies Act 1985.

In our opinion the supplementary current cost accounts on pages 58 to 61 have been properly prepared, in accordance with the policies and methods described on pages 60 and 61.

Coopers & Lybrand
Coopers & Lybrand
Chartered Accountants
London
17 July 1986

ACCOUNTING POLICIES

Determination of Policies

The Group's activities are described in the Directors' Report and the Company Review, which contains a detailed review of the year's operations. To a large extent the Company's plants have been or are being constructed for the purpose of servicing specific trading agreements and contracts with both United Kingdom and overseas customers for the provision of nuclear fuel services. Certain of these contracts are of a long-term nature and are not scheduled for completion until the end of this century. The processes involved are of a highly technical nature. The Group is subject to external regulatory requirements and keeps under constant review the safety standards appropriate to its activities in providing for ultimate plant decommissioning and the treatment, storage and disposal of waste products. These factors have affected the Group's determination of two of its major accounting policies, namely, Policy 3 - Provisions and Long-term Commitments and Policy 6 - which describes the depreciation policies for Fixed Assets.

The full Accounting Policies are as follows:

1 Consolidation

a The consolidated accounts include the accounts of British Nuclear Fuels plc, its Group companies, as listed on page 57 and the accounts of the Urenco (UK) Partnership, all of which are made up to 31 March.

b The consolidated accounts also include the Group's share of the profits less losses (in so far as they are not covered by Government grants available) shown by the accounts of the related companies listed on page 57. The accounts of the related companies are made up to 31 December in each year.

c Foreign currency balances are translated at the exchange rate ruling at the Balance Sheet date or at the rate of exchange specified in a related or matching forward contract. Exchange differences arising from the retranslation of the opening net investment in related foreign enterprises are taken to reserves. Other exchange differences are dealt with in the Profit and Loss Account.

2 Turnover

Turnover represents the total invoiced value of products delivered and services rendered to outside customers. In respect of contracts entered into for the provision of nuclear fuel services extending over a period of years, profit is taken in the year in which the services are provided and invoiced.

3 Provisions and Long-Term Commitments

In the majority of cases the Company's contracts provide for the recovery of future costs associated with each particular contract.

a To the extent that the costs are not considered to

BRITISH NUCLEAR FUELS plc
ACCOUNTING POLICIES *CONTINUED*
FOR THE YEAR ENDED 31 MARCH 1986

be recoverable from customers by way of a specific charge at the time the costs are incurred:

- i. Provision is made over their useful lives for the expected cost of decommissioning the Group's radioactive facilities. On being taken out of service, such radioactive facilities will be closed down and maintained in an acceptably safe condition. Provision is not made for the complete demolition and removal of decommissioned facilities on the assumption that the Group will continue to occupy the site on which each facility is located.
- ii. Provision is made for the expected cost of reprocessing irradiated metal fuel in the Group's storage ponds.
- iii. The costs associated with arisings of waste products for which an authorised disposal route is already in use, principally low level waste at present, are written off in the year in which they occur. Provision is made for the expected cost of treatment and storage of the Group's intermediate and high level waste products. For the reasons explained in paragraph 3 of the Directors' Report, provision is now made for the costs which are expected to arise in the ultimate disposal of intermediate level wastes. Provision is not made for the ultimate disposal of high level wastes as an appropriate route has not yet been established.
- iv. Provision is made for any losses which are expected to arise on contracts entered into at the Balance Sheet date, whether or not work on these contracts has commenced.

b These provisions are based on the latest technical assessments of the processes and methods likely to be used in the future and represent estimates derived from a combination of the latest technical knowledge available, existing legislation and regulations and commercial agreements evaluated at the Balance Sheet date at current prices. These estimates are reviewed annually and any consequential changes to the provisions that are required are taken up in the accounts for the year in which they arise.

4 Research and Development Expenditure

Research and development expenditure on projects not supported by firm orders is written off in the year in which it is incurred.

Expenditure on products for which firm orders have been received is held as part of the value of stocks and work in progress for recovery against the sales value of the initial orders.

5 Development and Exploitation of Centrifuge Process

Government grants received in respect of the development and exploitation of the centrifuge process are treated as a deferred income and released to the Profit and Loss Account against related expenditure written off.

6 Fixed Assets

a Depreciation is calculated to write off the historic cost of assets, generally by equal annual instalments, over the period assessed as their useful lives or, in the case of contractually committed assets acquired to meet specific contracts over the period in which the cost of these assets is recoverable from the customers. The periods used for depreciation purposes of the major categories of fixed assets are:

Buildings 10 to 60 years

Plant and Machinery 10 years

Provision is not made for depreciation on freehold land or assets in course of construction. Leasehold land is amortised over the period of the lease.

b Regional Development Grants are treated as a deferred income and transfers are made to the Profit and Loss Account, generally by equal annual instalments, over the period used for depreciation purposes for the assets to which they relate.

7 Stocks and Work in Progress

Stocks and work in progress are valued at cost or net realisable value whichever is the lower, and in the case of work in progress after deduction of progress payments. Cost where appropriate includes a proportion of all factory overhead expenses.

8 Deferred Taxation

Provision is made for taxation deferred as a result of material timing differences calculated on the liability method, except where no liability is expected to arise in the foreseeable future.

BRITISH NUCLEAR FUELS plc
CONSOLIDATED PROFIT AND LOSS ACCOUNT
 FOR THE YEAR ENDED 31 MARCH 1986

	NOTE	1986 £M	1985 £M
Turnover	1	628.9	545.1
Less Net Operating Costs and Expenses	2	490.1	406.9
Operating Profit	1	138.8	138.2
Less Research and Development Written Off		8.4	3.8
		130.4	134.4
Income from Fixed Asset Investments		1.3	0.8
		131.7	135.2
Less Financial Charges	5	87.7	66.8
Profit on Ordinary Activities before Tax		44.0	68.4
Tax on Profit on Ordinary Activities	6	6.8	11.0
Profit on Ordinary Activities after Tax		37.2	57.4
Profit attributable to Minority Interests		3.5	3.8
Profit for the Financial Year		33.7	53.6
Dividends	7	8.2	16.3
Retained Profit for the Year		25.5	37.3

STATEMENT OF RETAINED PROFIT/RESERVES

At beginning of year	187.0	149.8
Profit retained for year		
British Nuclear Fuels plc	34.2	33.3
Group Companies	(9.0)	3.9
Related Companies	0.3	0.1
	25.5	37.3
Exchange differences taken direct to reserves	0.5	(0.1)
At end of year	213.0	187.0

The Accounting Policies on pages 40 and 41 and notes on pages 45 to 57 form an integral part of the accounts.

The Auditors' Report is on page 40.

BRITISH NUCLEAR FUELS plc
BALANCE SHEETS
AS AT 31 MARCH 1986

	NOTE	GROUP		PARENT	
		1986	1985	1986	1985
		£M	£M	£M	£M
ASSETS EMPLOYED					
Fixed Assets:					
Tangible Assets	8	1,805.9	1,456.1	1,544.1	1,213.6
Investments	9	9.4	7.7	187.7	163.5
		<u>1,815.3</u>	<u>1,463.8</u>	<u>1,731.8</u>	<u>1,377.1</u>
Current Assets:					
Stocks	10	187.4	182.4	155.3	141.5
Debtors	11	228.0	207.0	240.6	215.9
Investments (short-term deposits)		20.6	12.1	6.1	—
Cash at bank and in hand		2.2	2.9	2.2	2.9
		<u>438.2</u>	<u>404.4</u>	<u>404.2</u>	<u>360.3</u>
Less Creditors: amounts falling due within one year	12	306.4	291.1	296.1	283.0
Net Current Assets		<u>131.8</u>	<u>113.3</u>	<u>108.1</u>	<u>77.3</u>
Total assets less current liabilities		<u>1,947.1</u>	<u>1,577.1</u>	<u>1,839.9</u>	<u>1,454.4</u>
FINANCED BY					
Creditors: amounts falling due after more than one year	13	1,150.7	875.7	1,125.0	849.0
Provisions for liabilities and charges	14	330.3	269.5	313.3	248.8
Accruals and deferred income	15	198.2	193.1	151.1	142.0
Capital and Reserves:					
Called up Share Capital	16	32.7	32.7	32.7	32.7
Exchange Differences		0.9	0.4	—	—
Profit and Loss Account	17	212.1	186.6	217.8	181.9
		<u>245.7</u>	<u>219.7</u>	<u>250.5</u>	<u>214.6</u>
Shareholders' Interest		22.2	19.1	—	—
Minority Interests		<u>1,947.1</u>	<u>1,577.1</u>	<u>1,839.9</u>	<u>1,454.4</u>

C G F Harding } Directors
J M Hayles }

The Accounting Policies on pages 40 and 41 and notes on pages 45 to 57 form an integral part of the accounts.
The Auditors' Report is on page 40.

BRITISH NUCLEAR FUELS plc
**CONSOLIDATED SOURCE AND APPLICATION
 OF FUNDS STATEMENT**
 FOR THE YEAR ENDED 31 MARCH 1986

	1986		1985	
	£M	£M	£M	£M
SOURCE OF FUNDS				
Profit on Ordinary Activities before Taxation		44.0		68.4
Adjustments for items not involving movement of funds:				
(Profit) retained in Related Companies		(0.3)		(0.1)
Depreciation of Tangible Fixed Assets		95.6		64.7
Government Grants released		(13.4)		(10.2)
Increase in amounts set aside re provisions for liabilities and charges (excluding Deferred Taxation)		66.1		57.5
Total generated from Operations		192.0		180.3
Funds from other sources:				
Disposal of Tangible Fixed Assets		0.1		0.7
Payment on account under long-term contracts		137.6		74.1
Government Grants receivable		18.5		32.1
Loans received	150.9		155.4	
Add reduction in amounts repayable within one year	6.0		(5.0)	
		156.9		150.4
Increase in Minority Interests in a Group Company and a Partnership		3.1		3.1
		508.2		440.7
APPLICATION OF FUNDS				
Purchase of Tangible Fixed Assets	445.5		366.6	
Dividends paid	16.3		16.3	
Repayment of Loans	19.5		14.5	
Advance Corporation Tax paid	6.3		7.3	
Investment in Partnerships and Related Companies (Fixed Asset Investments)	1.7		0.5	
		489.3		405.2
		18.9		35.5
INCREASE/(DECREASE) IN WORKING CAPITAL				
Stocks		5.0		4.0
Debtors		21.0		64.3
Creditors – amounts due within one year		(29.0)		(11.5)
Movement in net liquid funds:				
Investment (short-term deposits)	8.5		6.8	
Cash at bank and in hand	13.4		(28.1)	
		21.9		(21.3)
		18.9		35.5

BRITISH NUCLEAR FUELS plc
NOTES ON THE ACCOUNTS

	Turnover		Operating Profit	
	1986	1985	1986	1985
	£M	£M	£M	£M
1 Turnover				
The contributions to turnover and operating profits made by the different classes of business were as follows:				
Nuclear Fuel Services	570.9	485.6	135.3	128.7
Electricity	58.0	59.5	3.5	9.5
	<u>628.9</u>	<u>545.1</u>	<u>138.8</u>	<u>138.2</u>

As noted in the Directors' Report, the significant decrease in profitability in electricity is attributable to the changes in the level of provision requirements in the two years.

	1986		1985	
	£M	%	£M	%
Turnover can be further analysed:				
Home	507.0	80.6	417.5	76.6
Export: European Community Countries	51.3	8.2	53.5	9.8
Other European Countries	3.7	0.6	2.9	0.5
Japan and the Far East	61.6	9.8	57.7	10.6
North and South America	5.3	0.8	13.5	2.5
	<u>121.9</u>		<u>127.6</u>	
	<u>628.9</u>		<u>545.1</u>	

	1986	1985
	£M	£M
2 Net Operating Costs and Expenses		
Net Operating Costs and Expenses are made up as follows:		
Raw materials and consumables	154.5	121.1
Employee Costs	228.8	201.3
Depreciation	95.6	64.7
Provision for Liabilities and Charges (a)	72.2	58.6
Hire of Plant and Machinery	4.0	4.0
Other External and Operating Charges (b)	127.2	117.3
Operating Costs and Expenses	682.3	567.0
Less: Changes in stocks of finished goods and work in progress	14.9	17.4
	<u>118.9</u>	<u>101.7</u>
Own work capitalised	34.1	23.0
Own work on manufacture of components	10.8	7.7
Regional Development Grants released	2.6	2.6
Centrifuge Assistance Released	10.9	7.7
Other Operating Income	<u>490.1</u>	<u>406.9</u>

BRITISH NUCLEAR FUELS plc
NOTES ON THE ACCOUNTS *CONTINUED*

2 Net Operating Costs and Expenses *continued*

- a Provision for liabilities and charges includes exceptional amounts of £42M in both 1986 and 1985. The charge in 1986 arises from the need to provide £17M for the ultimate disposal of intermediate level wastes, £13M for the share of increased costs of effluent treatment associated with further reducing discharges from Sellafield and an additional £12M for the treatment of intermediate level wastes. As reported in 1985 the charge of £42M was for the initial provision for the treatment of intermediate level wastes (£56M) partly offset by a release on the decommissioning provision following a reassessment of the lives of the Calder and Chapelcross Reactors (£14M).
- b Other External and Operating Charges includes Auditors' Remuneration of £73,500 (1985 £69,750) of which £61,000 (1985 £58,000) relates to the Parent Company.

	1986	1985
	Number	Number
3 Employee Information		
The figures given below, other than in note (c) include information on Parent Company executive directors.		
a The average number of persons employed by the Group during the year was:		
Non-Industrial	6,946	6,805
Industrial	9,142	8,680
Officers and Ratings of Transport Ships	197	193
	16,285	15,678
	1986	1985
b Employee costs	£M	£M
Wages and Salaries	192.2	167.7
Social Security Costs	13.2	11.7
Other Pension Costs	20.2	18.9
Other Employee Costs (early retirement etc)	3.2	3.0
	228.8	201.3
	1986	1985
Employees of the Group other than officers and crew of transport ships who are members of the appropriate seamen's pension schemes, are members of the appropriate United Kingdom Atomic Energy Authority superannuation schemes. The Company's contributions were as follows:	£M	£M
Principal non-industrial scheme	9.9	9.1
Protected Persons scheme	4.1	3.7
Industrial scheme	6.0	5.9
Total UKAEA schemes	20.0	18.7
Seamen's pension schemes	0.2	0.2
	20.2	18.9

BRITISH NUCLEAR FUELS plc
NOTES ON THE ACCOUNTS *CONTINUED*

	1986	1985
	Number	Number
c Employees earning more than £30,000 per annum*		
£30,001 to £35,000	42	13
£35,001 to £40,000	3	6
£40,001 to £45,000	6	1
£45,001 to £50,000	—	2
£55,001 to £60,000	1	—

*Including taxable transfer grants payable on relocation in the Company's interest.

	1986	1985
	£M	£M
4 Directors' Emoluments and other Statutory Information		
The aggregate emoluments of the Directors of British Nuclear Fuels plc during the year were:		
Fees £30,767 (1985 £27,493)	—	—
Management	0.4	0.4
The emoluments, excluding pension provision by the Company, of the Directors in the various ranges are as follows:		
Range	1986	1985
	Number	Number
Nil to £5,000	2	7
£5,001 to £10,000	6	—
£30,001 to £35,000	—	1
£35,001 to £40,000	—	2
£40,001 to £45,000	5	3
£45,001 to £50,000	1	1
£60,001 to £65,000	—	1
£65,001 to £70,000	1	—
Emoluments of the Chairman	£66,995	£60,411

The ranges include, where appropriate, taxable transfer grants payable on relocation in the Company's interest.

A pension paid to a former Director amounted to £14,198 (1985 £2,839). Included in debtors is an interest free loan of £7,292 to a Director (Dr W L Wilkinson). This loan was made prior to his joining the Board in accordance with the Company's policy of providing housing assistance to staff who have been relocated.

BRITISH NUCLEAR FUELS plc
NOTES ON THE ACCOUNTS *CONTINUED*

	1986	1985
	£M	£M
5 Financial Charges		
Interest on loans: repayable within five years	35.8	25.2
repayable after five years	25.8	24.7
	61.6	49.9
Interest on bank overdraft and short-term loans	8.6	6.1
	70.2	56.0
Other financial charges:		
Bank Commissions etc.	6.2	1.6
Adjustment to opening provisions arising from changes in price levels	13.5	10.4
Interest payable and similar charges	89.9	68.0
Less Interest receivable from short-term deposits	2.2	1.2
Net Financial Charges	87.7	66.8

	1986	1985
	£M	£M
6 Tax on Profits on Ordinary Activities		
Related Companies Taxation	0.4	0.2
Corporation Tax (at 40%)	4.4	-
Advance Corporation Tax	1.6	6.3
Deferred Taxation (at 35%)	0.4	4.5
	6.8	11.0

The charge for Corporation Tax relates to a tax liability arising in one of the subsidiary companies. No charge for Corporation Tax arises on the profits of the year of the Parent Company and other subsidiary as a result of accelerated capital allowances and other timing differences. The benefit of these amounted in the year to £8.8M. Full provision has been made in one of the Subsidiary Companies for Deferred Taxation.

	1986	1985
	£M	£M
7 Dividends		
Interim Dividend paid 12¼% (1985 12¼%)	4.0	4.0
Final Dividend proposed 12¾% (1985 37¼%)	4.2	12.3
	8.2	16.3

BRITISH NUCLEAR FUELS plc
NOTES ON THE ACCOUNTS CONTINUED

8 Fixed Assets – Tangible Assets

a A summary of the tangible assets held by the Group is as follows:

	Land and Buildings		Plant and Machinery	Fixtures Fittings Tools and Equipment	Assets in Course of Construction	Total
	Long Leasehold	Freehold				
	£M	£M	£M	£M	£M	£M
Cost at 1 April 1985	3.8	183.5	708.0	14.6	854.1	1,764.0
Acquisitions	–	–	–	–	445.5	445.5
Disposals	–	(0.1)	(0.4)	(0.3)	–	(0.8)
Transfers	–	125.6	414.0	3.4	(543.0)	–
Cost at 31 March 1986	3.8	309.0	1,121.6	17.7	756.6	2,208.7
Depreciation at 1 April 1985	0.4	51.4	250.4	5.7	–	307.9
Charge for Year	–	16.6	76.5	2.5	–	95.6
Disposals	–	(0.1)	(0.4)	(0.2)	–	(0.7)
Depreciation at 31 March 1986	0.4	67.9	326.5	8.0	–	402.8
Net book value at 31 March 1986	3.4	241.1	795.1	9.7	756.6	1,805.9

b A summary of the tangible assets held by the Parent Company is as follows:

	Land and Buildings		Plant and Machinery	Fixtures Fittings Tools and Equipment	Assets in Course of Construction	Total
	Long Leasehold	Freehold				
	£M	£M	£M	£M	£M	£M
Cost at 1 April 1985	3.8	166.4	483.8	14.6	776.4	1,445.0
Acquisitions	–	–	–	–	400.2	400.2
Disposals	–	(0.1)	(0.4)	(0.3)	–	(0.8)
Transfers	–	121.1	338.3	3.4	(462.8)	–
Cost at 31 March 1986	3.8	287.4	821.7	17.7	713.8	1,844.4
Depreciation at 1 April 1985	0.4	49.1	176.2	5.7	–	231.4
Charge for Year	–	15.0	52.1	2.5	–	69.6
Disposals	–	(0.1)	(0.4)	(0.2)	–	(0.7)
Depreciation at 31 March 1986	0.4	64.0	227.9	8.0	–	300.3
Net book value at 31 March 1986	3.4	223.4	593.8	9.7	713.8	1,544.1

BRITISH NUCLEAR FUELS plc
NOTES ON THE ACCOUNTS *CONTINUED*

	Group		Parent	
	1986	1985	1986	1985
	£M	£M	£M	£M
9 Fixed Assets – Investments				
<i>GROUP COMPANIES:</i>				
Unquoted Shares at Cost	–	–	1.3	1.3
Convertible Unsecured Loan Stock at Cost	–	–	13.0	13.0
	–	–	14.3	14.3
	–	–	1.4	2.4
Provision for Losses	–	–	12.9	11.9
	–	–	174.0	151.0
Unsecured Loan Stock at Cost	–	–	186.9	162.9
<i>RELATED COMPANIES:</i>				
Unquoted Shares at Cost	0.5	0.3	0.5	0.3
Loans and Advances	17.9	17.9	0.2	0.2
	18.4	18.2	0.7	0.5
Less Amounts written off	17.7	17.5	–	–
	0.7	0.7	0.7	0.5
Share of retained profits	1.9	1.6	–	–
	2.6	2.3	0.7	0.5
Advances to partnerships	6.7	5.3	–	–
Other Fixed Asset Investments	0.1	0.1	0.1	0.1
Total Fixed Asset Investments	9.4	7.7	187.7	163.5

- a The unquoted shares comprise investments in the Group and Related Companies listed on page 57.

Dividends from Related Companies amounting to £447,947 (1985 £257,224) have been received during the year.

- b Advances to partnerships.
The Group is in partnership with Dutch and German organisations in Enterprises in the Netherlands and in Germany, for the purpose of producing enriched uranium using the centrifuge method. The Group's interest in each of the partnerships is 2% and is stated after deducting the Group's share of accumulated losses to date. Advances during the year include £0.4M (1985 £0.4M) share of profits for the year.

BRITISH NUCLEAR FUELS plc
NOTES ON THE ACCOUNTS *CONTINUED*

	Group		Parent	
	1986	1985	1986	1985
	£M	£M	£M	£M
10 Stocks				
Raw materials and consumables	87.3	91.8	79.4	77.7
Work in Progress	57.0	48.4	50.2	40.4
Finished Goods	43.1	42.2	25.7	23.4
	<u>187.4</u>	<u>182.4</u>	<u>155.3</u>	<u>141.5</u>

Work in progress is stated after deducting progress payments of £47.1M (1985 £42.5M) and includes £9.8M (1985 £14.8M) which will not be realised within 12 months.

	Group		Parent	
	1986	1985	1986	1985
	£M	£M	£M	£M
11 Debtors				
Trade Debtors	195.8	169.8	183.2	164.9
Amounts owed by Group Companies	—	—	27.7	16.2
Amounts owed by Related Companies	0.9	0.6	0.9	0.6
Other Debtors	18.6	25.1	16.1	22.7
Prepayments and Accrued Income	12.7	11.5	12.7	11.5
	<u>228.0</u>	<u>207.0</u>	<u>240.6</u>	<u>215.9</u>

Trade debtors include £4.3M (1985 £4.5M) not due for more than one year.

	Group		Parent	
	1986	1985	1986	1985
	£M	£M	£M	£M
12 Creditors: Amounts falling due within one year				
Current portion of long-term Loans	13.5	19.5	9.6	15.1
Bank Loans and Overdraft	49.6	63.7	49.6	63.7
Payments received on account	55.9	50.2	53.7	44.3
Trade Creditors	99.3	85.5	96.1	81.7
Amounts owed to Group Companies	—	—	9.6	7.9
Taxation	14.0	8.9	3.9	8.1
Social Security	2.6	2.2	2.6	2.2
Dividends	4.2	12.3	4.2	12.3
Accruals and Deferred Income	46.2	34.9	45.8	34.3
Current portion of provisions and long-term commitments	21.1	13.9	21.0	13.4
	<u>306.4</u>	<u>291.1</u>	<u>296.1</u>	<u>283.0</u>

BRITISH NUCLEAR FUELS plc
NOTES ON THE ACCOUNTS *CONTINUED*

		Group		Parent		
		1986	1985	1986	1985	
		£M	£M	£M	£M	
13 Creditors: Amounts falling due after more than one year						
Loans		666.8	529.4	649.6	510.8	
Payments received on account		483.9	346.3	475.4	338.2	
		<u>1,150.7</u>	<u>875.7</u>	<u>1,125.0</u>	<u>849.0</u>	
a	Loans	Period of Repayment	Group		Parent	
			1986	1985	1986	1985
		£M	£M	£M	£M	
Unsecured Loans						
9½%–11¾%		1986–1995	5.5	14.3	5.5	14.3
5½%		1986–1995	11.5	13.0	11.5	13.0
Bank Loans–Guaranteed Under Nuclear Industry Finance Acts						
½%–¾% above London Inter-Bank		1986–1995	292.2	243.2	292.2	243.2
10½%–13¾%		1986–1995	346.3	250.8	346.3	250.8
Secured Bank Loans–Guaranteed by Secretary of State for Industry						
7½%		1986–1987	1.6	3.4	–	–
7½%		1986–1990	3.7	4.6	3.7	4.6
7½%		1986–1991	6.4	7.6	–	–
7½%		1986–1994	13.1	12.0	–	–
			<u>680.3</u>	<u>548.9</u>	<u>659.2</u>	<u>525.9</u>
Less repayable before 31 March 1986 included in current liabilities			13.5	19.5	9.6	15.1
			<u>666.8</u>	<u>529.4</u>	<u>649.6</u>	<u>510.8</u>
Loans are repayable by instalments within periods from Balance Sheet date of:						
From one to two years			28.7	13.3	25.4	9.6
From two to five years			270.7	235.2	262.3	227.0
Over five years			367.4	280.9	361.9	274.2
			<u>666.8</u>	<u>529.4</u>	<u>649.6</u>	<u>510.8</u>
			Group		Parent	
			1986	1985	1986	1985
			£M	£M	£M	£M
b Payments on account have been received and are receivable from customers for the provision of services under long-term contracts. Credit will be given, when the services are provided, within periods from Balance Sheet date of:						
From one to five years			113.7	91.1	111.6	86.9
Over five years			370.2	255.2	363.8	251.3
			<u>483.9</u>	<u>346.3</u>	<u>475.4</u>	<u>338.2</u>

BRITISH NUCLEAR FUELS plc
NOTES ON THE ACCOUNTS *CONTINUED*

14 Provisions for liabilities and charges

A summary of the Provisions for liabilities and charges is as follows:

	Note	Decom- missioning £M	Waste Products £M	Future Re- processing Costs £M	Future Losses on Contracts £M	Deferred Tax £M	Other Provisions £M	Total £M
Balance at 1 April 1985:								
Parent Company		55.1	97.4	15.0	75.3	-	6.0	248.8
Subsidiary Companies		6.9	-	-	-	13.8	-	20.7
Group		62.0	97.4	15.0	75.3	13.8	6.0	269.5
Adjustment to Provisions arising from changes in price levels:								
	5							
Parent Company		2.9	4.9	1.1	3.8	-	0.4	13.1
Subsidiary Companies		0.4	-	-	-	-	-	0.4
Group		3.3	4.9	1.1	3.8	-	0.4	13.5
Charge in the Year:								
	2/6							
Parent Company		7.0	30.0	11.9	15.5	-	6.9	71.3
Subsidiary Companies		0.9	-	-	-	0.4	-	1.3
Group		7.9	30.0	11.9	15.5	0.4	6.9	72.6
Transfers from/(to) Creditors amounts due within one year:								
Parent Company		(2.3)	-	(12.7)	0.4	-	(5.3)	(19.9)
Subsidiary Companies		0.3	-	-	-	(5.7)	-	(5.4)
Group		(2.0)	-	(12.7)	0.4	(5.7)	(5.3)	(25.3)
Balance at 31 March 1986:								
Parent Company		62.7	132.3	15.3	95.0	-	8.0	313.3
Subsidiary Companies		8.5	-	-	-	8.5	-	17.0
Group		71.2	132.3	15.3	95.0	8.5	8.0	330.3

BRITISH NUCLEAR FUELS plc
NOTES ON THE ACCOUNTS CONTINUED

	1986		1985	
	Full Potential	Provided	Full Potential	Provided
	£M	£M	£M	£M
a Deferred Tax				
Excess of book written down value of fixed assets eligible for taxation capital allowances over the taxation written down value of those assets:				
Parent Company	312.6	-	222.7	-
Subsidiary Companies	61.5	18.0	60.6	17.8
Group	374.1	18.0	283.3	17.8
The benefit of taxation losses carried forward:				
Parent Company	(153.6)	-	(92.7)	-
Subsidiary Companies	(43.5)	-	(42.9)	(0.1)
Group	(197.1)	-	(135.6)	(0.1)
Timing differences between the charging of particular items in the accounts and their equivalent deduction for taxation purposes:				
Parent Company	(99.3)	-	(80.6)	-
Subsidiary Companies	0.1	0.1	-	-
Group	(99.2)	0.1	(80.6)	-
Recoverable UK Corporation Tax:				
Parent Company	(23.7)	-	(22.2)	-
Subsidiary Companies	(9.6)	(9.6)	(3.9)	(3.9)
Group	(33.3)	(9.6)	(26.1)	(3.9)
Total:				
Parent Company	36.0	-	27.2	-
Subsidiary Companies	8.5	8.5	13.8	13.8
Group	44.5	8.5	41.0	13.8

The full liability for deferred taxation has been provided in respect of Pacific Nuclear Transport Limited.

No provision for deferred taxation is made in the Parent Company and Group Companies other than Pacific Nuclear Transport Limited because no liability is expected to arise in the foreseeable future. These Companies' plans over the next few years provide for an investment in fixed assets in respect of which the taxation capital allowances will be substantially in excess of the expected charge for depreciation.

At 31 March 1986 certain Companies in the Group had accumulated tax losses amounting to £10M which are available for off-set only against future taxable profits of those Companies and which have, therefore, not been included in the deferred taxation above.

BRITISH NUCLEAR FUELS plc
NOTES ON THE ACCOUNTS CONTINUED

	Group		Parent	
	1986	1985	1986	1985
	£M	£M	£M	£M
15 Accruals and Deferred Income				
This comprises Government Grants held as a deferred credit,				
Regional Development Grants	186.9	179.3	151.1	142.0
Centrifuge Project	11.3	13.8	-	-
	198.2	193.1	151.1	142.0

HM Government provided financial support to the Group related to the cost of a defined initial programme of development work and plant construction in connection with the tripartite centrifuge project. In return, the Group has undertaken to make payments to the Department of Energy out of profits accruing from its centrifuge operations in future years.

	1986	1985
	£M	£M
16 Called up share capital		
Ordinary Shares of £1 each Authorised	43.0	43.0
Allotted, called up and Fully Paid	32.7	32.7

17 Parent company profit and loss account reserves	£M
Balance at 1 April 1985	181.9
Profit Retained	35.9
Balance at 31 March 1986	217.8

Parent Company Profit and Loss Account Reserves include £13.0M (1985 £11.3M) profit on transactions with Urenco (UK) Partnership and subsidiary companies which is eliminated on consolidation.

18 Capital expenditure authorised
Capital expenditure authorised but not provided for in these accounts amounted to £1,676M (1985 £1,985M) for the Group including £1,544M (1985 £1,846M) for the Company, for which contracts of £230M (1985 £158M) have been placed by the Group including £178M (1985 £112M) by the Company.

BRITISH NUCLEAR FUELS plc
NOTES ON THE ACCOUNTS *CONTINUED*

19 Contingent liabilities

At 31 March 1986 the Parent Company had contingent liabilities incurred in the ordinary course of business arising out of guarantees and other transactions in respect of which, in the opinion of the Directors, no material losses are expected to arise. Details are:

- a Promissory Notes discounted totalling £1.2M of which 90% are covered by export insurance arrangements.
- b Contingent liabilities in respect of indemnities given to shippers of nuclear materials covered by a back to back guarantee from United Kingdom Atomic Energy Authority.
- c Contingent liabilities for material supplied and advance payments made by Third Parties to Urenco Nederland and Urenco Deutschland of £79M arising from joint and several liabilities.
- d Guarantees by Parent Company associated with other Group organisations for:
 - i. bank overdraft and loans up to a maximum of £9M;
 - ii. £15M advanced on behalf of an overseas customer by the Export Credit Guarantee Department;
 - iii. Commitments to their partners in Urenco (UK), Urenco Nederland and Urenco Deutschland and to the other two Shareholders in Centec GmbH.

BRITISH NUCLEAR FUELS plc
GROUP AND RELATED COMPANIES

GROUP COMPANIES

BNFL Enrichment Limited

Is wholly owned by British Nuclear Fuels plc and is the central subsidiary through which all financial aspects of participation in the tripartite centrifuge project are handled.

In addition, four subordinate companies, wholly owned through BNFL Enrichment Limited, are used as vehicles for financing particular sections of the project.

They are BNFL Enrichment (Plant and Equipment) Limited, BNFL Enrichment (Operations) Limited, BNFL Enrichment (Operations-UK) Limited (96% partner in Urenco (UK)), and BNFL Enrichment (Operations-Europe) Limited (2% partner in Urenco Nederland and Urenco Deutschland).

Pacific Nuclear Transport Limited

Incorporated in England in 1975. Its main purpose is the transport of irradiated fuel from Japan to Europe. BNFL holds 62½% of the shares. The remainder are held by Japanese and French organisations.

RELATED COMPANIES

Centec GmbH

Incorporated in Germany in 1971. Its main purpose is to co-ordinate the development in the laboratories in the three countries of plant for the enrichment of uranium by the centrifuge process.

BNFL holds one-third of the shares. The remainder are held by Netherlands and German organisations.

Urenco Limited

Incorporated in England in 1971. Its main purpose is the marketing of enriched uranium produced in enrichment plants using the centrifuge process.

BNFL holds one-third of the shares. The remainder are held by Netherlands and German organisations.

Combustibili Nucleari SpA

Incorporated in Italy in 1967 for the purpose of manufacturing and supplying fuel and fuel components and providing related services, including reprocessing for nuclear power stations.

BNFL holds half of the shares. The remainder are held by an Italian Company.

Nukleardienst GmbH

Incorporated in Germany in 1964 for the purpose of providing nuclear fuel services for AGR type reactors built in that country or in certain other European countries.

BNFL holds half of the shares. The remainder are held by a German Company.

UK Nirex Limited

Incorporated in England in 1985 for the purpose of providing disposal services for low and intermediate level wastes.

BNFL holds 42½% of the ordinary shares. The remainder are held by other United Kingdom organisations.

United Reprocessors GmbH

Incorporated in Germany in 1971 for the purpose of marketing and providing services for the reprocessing of irradiated fuel from nuclear power stations using uranium oxide fuel.

BNFL holds one-third of the shares. The remainder are held by French and German organisations.

Nuclear Transport Limited

Incorporated in England in 1972 for the purpose of providing services for the transport of irradiated nuclear fuel elements from oxide-fuelled power reactors to reprocessing plants.

BNFL holds one-third of the shares. The remainder are held by French and German organisations.

NTL-Nukleare Transportleistungen GmbH

Incorporated in Germany in 1979 for the purpose of providing services for the transport of irradiated nuclear fuel elements from oxide-fuelled power reactors to reprocessing plants.

BNFL holds one-third of the shares. The remainder are held by French and German organisations.

NTL-Société Nucléaire Pour Les Transports Lourds SARL

Incorporated in France in 1983 for the purpose of providing services for the transport of irradiated nuclear fuel elements from oxide-fuelled power reactors to reprocessing plants.

BNFL holds one-third of the shares. The remainder are held by French and German organisations.

BRITISH NUCLEAR FUELS plc
**CONSOLIDATED CURRENT COST PROFIT
 AND LOSS ACCOUNT**
 FOR THE YEAR ENDED 31 MARCH 1986

	NOTE	1986		1985	
		£M	£M	£M	£M
Turnover			628.9		545.1
Less Net Operating Costs and Expenses			490.1		406.9
Operating Profit on historical cost basis			138.8		138.2
Less Research and Development Written Off			8.4		3.8
			130.4		134.4
Income from Fixed Assets Investments			1.3		0.8
Profit before Financial Charges and Taxation on the historical cost basis			131.7		135.2
Less Current cost operating adjustments	2		55.5		64.2
Current cost profit before gearing adjustment, financial charges and tax			76.2		71.0
Gearing adjustment	5	38.9		42.8	
Financial charges		(87.7)		(66.8)	
			(48.8)		(24.0)
Current cost profit on ordinary activities before tax			27.4		47.0
Tax on profit on ordinary activities			6.8		11.0
Current cost profit on ordinary activities after tax			20.6		36.0
Profit attributable to Minority Interests			2.7		2.9
Current cost profit for the Financial Year			17.9		33.1
Dividends			8.2		16.3
Retained current cost profit for the year			9.7		16.8
STATEMENT OF RETAINED PROFITS/RESERVES					
Retained current cost profit for the year			9.7		16.8
Movements on current cost reserve	4		(26.4)		23.6
Movement on other reserves			0.5		(0.1)
			(16.2)		40.3
Retained profit/reserves at the beginning of the year			340.2		299.9
Retained profit/reserves at the end of the year			324.0		340.2

The notes on pages 60 and 61 form an integral part of the accounts.

The Auditors' Report is on page 40.

BRITISH NUCLEAR FUELS plc
**SUMMARISED CONSOLIDATED CURRENT COST
BALANCE SHEET**
AS AT 31 MARCH 1986

	NOTE	1986		1985	
		£M	£M	£M	£M
ASSETS EMPLOYED					
Fixed Assets:					
Tangible Assets	3		1,925.7		1,602.8
Investments			9.7		8.0
			1,935.4		1,610.8
Net Current Assets/(Liabilities)					
Stocks		194.6		202.7	
Debtors		228.0		207.0	
Trade creditors, accruals and deferred income falling due within one year		(236.1)		(192.6)	
		186.5		217.1	
Proposed dividend		(4.2)		(12.3)	
Other net current assets/(liabilities)		(43.3)		(71.2)	
			139.0		133.6
Total assets less current liabilities			2,074.4		1,744.4
FINANCED BY					
Creditors: amounts falling due after more than one year			1,150.7		875.7
Provisions for liabilities and charges			330.3		269.5
Accruals and deferred income			212.4		205.2
Capital and Reserves:					
Called up Share Capital		32.7		32.7	
Current Cost Reserve	4	214.7		241.1	
Other Reserves		0.9		0.4	
Profit and Loss Account		108.4		98.7	
Shareholders' Interest			356.7		372.9
			24.3		21.1
Minority Interests			2,074.4		1,744.4

The notes on pages 60 and 61 form an integral part of the accounts.

The Auditors' Report is on page 40.

NOTES ON THE CURRENT COST ACCOUNTS**1 Basis of Preparation**

The current cost accounts have been prepared by reference to current cost principles in conformity with SSAP 16. The accounting policies used in preparing the historical cost accounts have been adopted in the current cost accounts except where adjusted by reference to current cost principles as set out below.

a Fixed Assets

The Group's fixed assets fall into two categories:

i. Assets acquired to meet specific contracts, the cost of which assets will be met by the customer over a period of years; these are referred to as contractually committed assets;

ii. Other fixed assets.

It is considered that the impact of inflation on the Group is best reflected by treating contractually committed fixed assets as monetary assets and showing them at their historical cost net book values, this amount being the proportion of the cost of the assets remaining to be recovered from the customers. The adjustment relating to these assets reflects the change due to inflation in the need for funds to finance such assets except to the extent that they are specifically financed by advance payments from customers, and is computed by reference to their historical cost net book values using an appropriate Government price index of general application.

Other assets are stated at the lower of their net current replacement costs using appropriate Government indices or their recoverable amounts and corresponding depreciation adjustments have been made.

b Working Capital

Stocks and work in progress which will be replaced are stated at estimated current replacement cost. Those which will not be replaced are stated at historical cost. Monetary working capital comprises debtors less trade creditors and accruals and deferred income falling due within one year, and provisions for liabilities and charges other than deferred taxation. Replacement costs and the cost of sales and monetary working capital adjustments have been based on records of changing prices maintained by the Group or appropriate Government indices. The cost of sales adjustment has been arrived at, in part, using the averaging method. No cost of sales adjustment has been made in respect of stocks which will not be replaced. These are excluded from net operating assets and offset against net borrowings in note 5 to the current cost accounts.

c Gearing Adjustment

The gearing adjustment is based on the average gearing during the year, calculated on a Group basis.

	1986	1985
2 Adjustments made in deriving current cost operating profit	£M	£M
Cost of Sales	0.8	2.3
Monetary Working Capital	(11.8)	(13.8)
Working Capital	(11.0)	(11.0)
Fixed Assets – Contractually Committed	49.3	60.0
Others	17.2	15.2
Current Cost Operating Adjustments	55.5	64.2

	1986			1985		
	Gross	Depreciation	Net	Gross	Depreciation	Net
	£M	£M	£M	£M	£M	£M
3 Fixed Assets						
Land and Buildings	339.6	79.7	259.9	220.3	64.8	156.0
Plant and Machinery	1,336.5	429.6	906.9	929.2	344.1	585.1
Assets in Course of Construction	758.9	—	758.9	861.7	—	861.7
	2,435.0	509.3	1,925.7	2,011.7	408.9	1,602.8

The net figure includes £1,453.5M (1985 £1,210.6M) assets which are contractually committed.

NOTES ON THE CURRENT COST ACCOUNTS *CONTINUED*

	1986		1985	
	£M	£M	£M	£M
4 Current Cost Reserve				
Revaluation surplus reflecting price changes:				
Land and Buildings	(3.6)		0.7	
Plant and Machinery	1.5		18.6	
Assets in Course of Construction	(5.2)		5.1	
Stocks and Work in Progress	(13.0)		(1.9)	
Government Grants	(4.6)	(24.9)	(4.3)	18.2
Contractually Committed Assets adjustment		49.3		60.0
Cost of Sales adjustment		0.8		2.8
Monetary Working Capital adjustment		(11.8)		(13.8)
Gearing adjustment		(58.9)		(42.8)
Minority Interests		(0.9)		(0.8)
Movement in Year		(26.4)		23.6
Balance at Beginning of Year		241.1		217.5
Balance at End of Year		214.7		241.1
of which: realised		103.7		87.9
unrealised		111.0		153.2
		214.7		241.1
	1986		1985	
	£M	£M	£M	£M
5 Financing of Net Operating Assets				
Fixed Assets (net of Regional Development Grants and specific advance payments from customers)		1,501.9		1,298.7
Investments		9.7		8.0
Working Capital		(135.3)		(38.6)
Net Operating Assets		1,376.3		1,268.1
Share Capital and Reserves		356.7		372.9
Proposed Dividend		4.2		12.3
Total Shareholders' Interest		360.9		385.2
Minority Interests		24.3		21.1
Loans	666.8		529.4	
Non-specific advance payments from customers	261.2		233.5	
Deferred Tax	8.5		13.8	
Government Grants	11.3		13.9	
Other Net Current Liabilities	43.3		71.2	
Net Borrowing		991.1		861.8
		1,376.3		1,268.1

The gearing adjustment is based on the proportion of the net operating assets that were financed by net borrowing during the year.

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NOTE: The above figures have been fully restated from those published in the annual accounts not only for the presentational effects of the 1981 Companies Act but also:
1982 – to include the adjustment on Provisions for Liabilities and Charges to reflect known changes in price levels as Financial Charges.

BRITISH NUCLEAR FUELS plc
NOTICE OF MEETING

The FIFTEENTH ANNUAL GENERAL MEETING of British Nuclear Fuels plc will be held at 65 Buckingham Gate, London SW1 on Friday, 26 September 1986, at 10.30 am for the following purposes:

- 1 to receive the Report of the Directors and the audited Accounts for the year ended 31 March 1986, and to declare a final dividend;
- 2 to re-elect Directors appointed prior to the Meeting;
- 3 to re-appoint Coopers & Lybrand the retiring auditors and to authorise the Directors to fix their remuneration;
- 4 to transact any other ordinary business proper to an Annual General Meeting of the Company.

By order of the Board

H E Bolter
Secretary
Risley, Warrington
17 July 1986



Note

A member entitled to attend and vote at the meeting is entitled to appoint one or more proxies to attend and vote instead of him. A proxy need not also be a member.

Registered Office
Risley, Warrington, WA3 6AS.

Auditors
Coopers & Lybrand
Plumtree Court
London, EC4A 4HT.

Bankers
National Westminster Bank plc
55 King Street
Manchester, M60 2DB.

Solicitors
Freshfields
Grindall House
25 Newgate Street
London, EC1A 7LH.

The categories of radioactive wastes, based on advice from the Radioactive Waste Management Advisory Committee, are as follows:—

- 1 HIGH LEVEL (HEAT GENERATING WASTE) WASTES**, which are defined in the UK as those wastes in which the temperature may rise significantly as a result of their radioactivity so that this factor has to be taken into account in designing storage or disposal facilities.
- 2 LOW LEVEL WASTES**, which are wastes containing radioactive materials other than those acceptable for dustbin disposal (very low level) but not exceeding 4 GBq/te alpha or 12 GBq/te beta/gamma.
- 3 INTERMEDIATE LEVEL WASTES**, which are wastes with radioactivity exceeding the boundaries for low level wastes, but which do not require heating to be taken into account in the design of storage or disposal facilities.