

# TOPIC

The **GEC** newspaper

April 1987

## Royal opening for technology centre

THE Duke and Duchess of York recently opened Marconi Underwater Systems' new £18 million advanced technology centre at Croxley Green, near Watford.

During their visit to the site they saw examples of the company's most creative and advanced technology, much of which was shown for the first time.

The 18 acre site provides employment for 1,000 people working on a wide range of civil and

military projects. Scientists at the centre specialise in the development and application of underwater sensors and electronics systems for ocean survey, torpedoes, mines and sonars.

Commenting on the formation of the new centre Adam Bodnar, managing director of Marconi Underwater Systems, said "It brings a range of technology, skills and services together which create a powerful force for progress and

comes at a stage when we seek to consolidate our success and to provide a platform for future development and diversification."

The Royal couple were shown the company's massive computer facility which has enabled Marconi scientists to establish a world lead in underwater technology for the UK.

Pictured are the Duke and Duchess receiving a crystal rose bowl from Adam Bodman.



### New research laboratory planned for Cambridge

GEC Research is to establish a new research centre on the Cambridge Science Park.

The centre will be built on seven acres of land being acquired from the Science Park Trustees (Trinity College) and, it is envisaged, will eventually house about 600 scientists, engineers and support staff.

At the Cambridge Research Centre new research initiatives in areas including microelectronics, information technology and software will be undertaken.

New staff will be recruited and it is expected some members of the GEC research staff based at Wembley and Great Baddow sites will eventually transfer to Cambridge.

GEC Research has increased its level of staff by more than 50 per cent over the last five years and there is a need to relieve some congestion at the two sites caused by this growth.

The first stage of the building will not be completed for about two years.

### AIRPORT

MARCONI Command and Control Systems, Leicester has received an order from London City Airport Limited to supply two field site instrumented visual range and meteorological systems for the new STOLport at Newham in London's dockland.

GEC Industrial Controls, Kidsgrove and GEC Electrical Projects, Rugby, have recently had successful dealings with the Soviet Union.

GEC Industrial Controls and Simon-Carves Limited, Stockport, Cheshire jointly announced the signing of a Protocol of Intent with V/O Technopromimport, Moscow, for a turnkey contract for a major industrial complex in Yerevan, Armenia, in the Soviet Union.

#### Signed

The Protocol of Intent was signed in Moscow during the visit of the Prime Minister, Margaret

Thatcher.

The complex will have an investment value of approximately £300 million and an annual output of 25,000 programmable logic controllers developed from the successful GEM 80 programmable controller family of GEC Industrial Controls. The

project is scheduled for completion during the first half of 1990.

Simon-Carves will design, supply, construct and commission of the complex on a green field site.

GEC Electrical Projects has won an initial order worth two and a

half million pounds for the supply and installation of paint spraying robots for the Soviet automotive industry.

The Soviet plant now being modernised is the GAZ factory at Gorki, which produces cars and lorries for home and export markets. Based on the plant standardising on the GEC robot, other orders for a much larger number of robots can be expected.

Eighteen GEC Comp-arm robots which received an award from the Design Council will be incorporated into three lorry cabin production lines for internal and external paint finishing. Each system is a continuous conveyor line, in which the robots synchronously track the cabins

*Continued on page 7*

### ROBOTS FOR GORKI FACTORY AND ...

## USSR TO BUY GEM 80 TECHNOLOGY

## Hotpoint's leader creates more jobs

BEFORE the end of 1987, Hotpoint, Peterborough, will start manufacturing its best selling range of dishwashers in its Llandudno Junction factory, North Wales.

Hotpoint has consolidated its position as brand leader and because of the increase in the dishwasher market the company will be creating new jobs. In the short

term starting with 60 and possibly increasing to 160 jobs at the end of 1988.

Manufacture will start with the 7810, the UK's best selling dishwasher and this will be followed shortly by other products in the range.

The dishwashers were on display at Hotpoint's successful annual exhibition recently held at its Baker Street showroom in London.

The emphasis this year was colour. All the appliances can now be purchased in the popular, polar white facia.

New features were also introduced to many of the appliances such as a 60 per cent increase in vacuum cleaners dust bags capacity, adjustable

*Continued on page 15*



Hotpoint's Llandudno Junction factory.

## £100m Sizewell contract

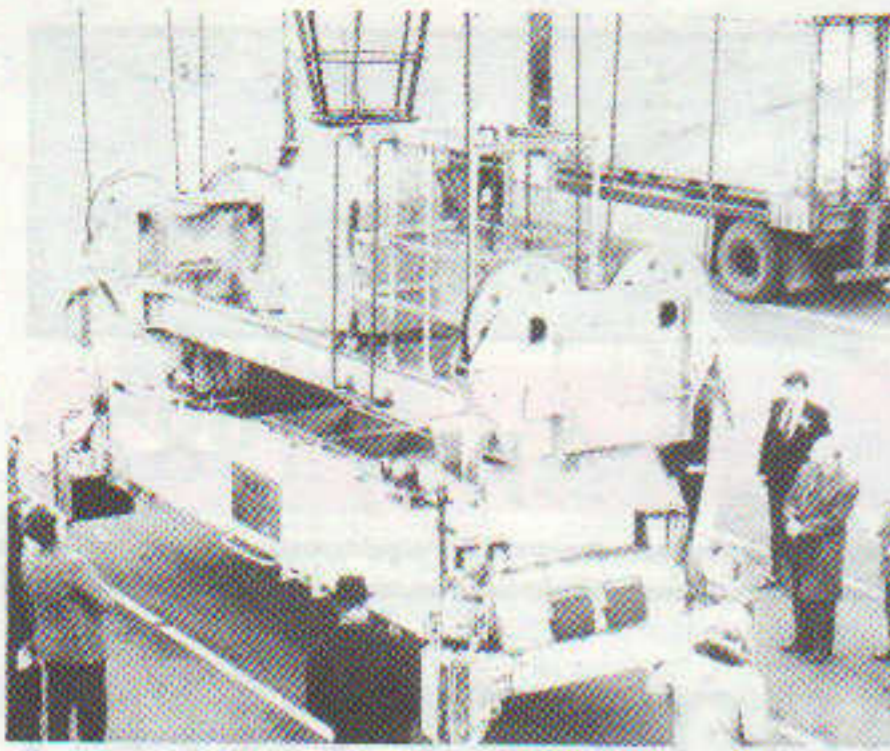
FOLLOWING Government approval to the Sizewell PWR nuclear power station, the Central Electricity Generating Board has now given GEC Turbine Generators an official instruction to proceed with the hardware supply and erection for the turbine generators. The order is for two-600MW 3000rpm turbine generators together with condensing and feed heating plant and moisture separator reheaters.

#### Operation

The contract is worth about £100 million to GEC Turbine Generators and will provide 2,500 man years of work between GEC's four factories at Rugby, Stafford, Manchester and Larne. Manufacture will be carried out over a period of three years before the erection work starts on site. This will create an additional 650 man years of work in erection and commissioning. The station is planned for commercial operation in 1994.

### INSIDE TOPIC

- Pg 4 Nelson Gold Medals
- Pg 6 Ray Baker and the Fife Community
- Pg 8/9 Cross Channel link
- Pg 11 Competitions



The spreader beam at the Port of Felixstowe.

## GEC spreader beam launched at Felixstowe

GEC Mechanical Handling, Erith, has launched a new telescopic spreader beam at a special demonstration hosted by the Port of Felixstowe, the UK's largest container port.

### Trials

This equipment is a lifting device, attached to a crane, which transfers containers from ship-to-shore. A second design is also

being considered by the company for railyard container handling applications.

The GEC machine is the only British designed and manufactured spreader beam currently on the market and it has several unique features and benefits to the user including greater reliability, easy maintenance, floating twistlocks and is higher than competitors.



## WOODS PLAY HOST

WOODS of Colchester recently played host to a number of senior design engineering managers, representing three leading French car manufacturers, Citroen, Peugeot and Renault.

The French visitors spent two days at Woods head office and plant in Tufnell Way, to appraise the technology of Woods, in terms of future investment and plans for new plants in France, over the next ten years.

Woods have previously worked closely with other major European car manufacturers, including Audi and Porsche.

The visit was arranged in France, by the Cie Francaise Woods Division of GEC Composants.

## Weighing up the orders at Avery

W&T AVERY recently received orders for its successful weighbridge system.

A 120 tonne weighbridge has been installed at the Royal Armament Research and Development Establishment at Chertsey, Surrey, for checking the weight of tanks, tank transporters and other military vehicles. This is the first installation of its type in the UK.

The weighbridge is used to determine the weight of vehicles for performance

tests and transportation purposes. It was specially manufactured and installed by Avery to meet MOD requirements.

### Regulations

An in-built axle weighing facility ensures that tank transporters conform to road traffic regulations and enables maximum loads to be assessed. Each axle is driven on or off the weighbridge in turn and the system automatically calculates and prints out the weight carried by each axle.

CANNON Industries, Bilston, was recently awarded its fifth Blue Ribbon trophy.

The award is annually given by the *Daily Mail* Ideal Home Exhibition for technical achievements benefitting the consumer.

Cannon received the Blue Ribbon for its latest new product, the double oven deluxe, the first conventionally styled, freestanding double oven cooker, for the gas market. This unique appliance is expected to open up a new area of the cooker market offering benefits previously only available to those cooking by electricity.

## BLUE RIBBON WON FOR FIFTH TIME

Cannon was also recognised as an innovator by the Blue Ribbon committee in 1971, 1972, 1978 and more recently in 1982. Each time it was for technical advances in the sphere of gas appliance manufacturing.

Cannon's new double oven deluxe was displayed alongside the company's other cooking and heating products of the British gas stand at the recent Ideal Home Exhibition held in London.



David Scahill, managing director (far right) with some of the Cannon employees who helped to design, develop and manufacture the Blue Ribbon award winner.

A NEW management structure, centred on the appointments of Bill Henderson, general manager, Stephen Turner, divisional manager, and David Morrison, works manager, has been created at Marconi Radar's Bill Quay, Gateshead plant.

Traditionally a primary manufacturing base for the company's headquarters in Chelmsford, the Gateshead Division has, over the last three years, developed, produced and marketed its own range of new products, particularly Isolator electronic equipment shelters

## New team at Marconi

and satellite communications antennas, with such success that some 300 new employees have been recruited in the last two years.

### Growth

Responsible for promoting the company's Gateshead growth, Bill Henderson said: "All sectors of

our business have been showing strong growth, with order books taking us to 1990. As well as the expansion in our traditional activity — notably the manufacture of the Queen's award-winning Martello 3-D surveillance radar — the shelters and antennas business has increased by

over 30 per cent this year."

Managing the new Gateshead Division Stephen Turner — who had wide experience of radar, satellite and cable television both in Britain and the US prior to joining Gateshead two years ago — is actively looking for other products to develop and market from Gateshead.

David Morrison, leading the work team, has been with Marconi Radar at Chelmsford and Gateshead for a number of years having formerly been on the staff of the Strathclyde University.

## NEW STRUCTURE AT GEC AV

IT WAS recently announced that GEC Avionics will be formed into three groups each with its own managing director.

The new groupings are: Navigation — managing director, Peter Hearne, Dynamics — managing director, Ron Howard and Sensors — managing director, Wally Paterson.

In a memo to GEC staff,

Lord Weinstock said: "The rate of expansion of the business of GEC Avionics in recent years has been matched only by that of the technological complexity of its products. The stage has now been reached at which it is appropriate to form in GEC Avionics three identifiable groups working not only together amongst themselves, but also, in certain fields, with other GEC units.

"Following the abandon-

ment of Nimrod-AEW, questions have been raised with regard to the future of airborne interceptor radar. GEC wishes to make clear the importance it attaches to its continuing participation in this business, in the success of which several of its units have a substantial interest."

David Fletcher, managing director of Marconi Defence Systems, will assume responsibility for airborne interceptor radar

including the important Foxhunter radar project.

During the next few months, GEC Avionics and the Marconi companies will seek more actively to combine their resources to enhance further their considerable technological and commercial strengths.

Bill Alexander, managing director of GEC Avionics has also been appointed a director of The Marconi Company as a positive step to further this objective.



The Avery weighbridge weighing a Scammell commander transporter loaded with a Chieftain tank.

## £650,000 FOR DEFENCE STUDY

MARCONI Projects, Stanmore, has been awarded a £650,000 fixed-price contract by the UK Ministry of Defence to conduct pre-feasibility studies into an advanced missile defence system. This would be capable of defending Royal Navy warships against attack by aircraft and missiles well into the next century.

The Support Defence Missile System (SDMS), which is the subject of the studies, is designed to give protection to high value surface units and to other ships that are not equipped with other forms of adequate self-defence.

The current round of studies, the second to be awarded to Marconi Projects, will probe the high technical risk areas involved with such a project and will be considered by the end of 1987. Marconi Defence Systems, Stanmore and Marconi Radar Systems, Chelmsford, are

jointly working with Marconi Projects on these vital studies.

## FIRST OF ITS KIND FOR TCL

TELEPHONE Cables (TCL), leader in optical cable design and production in the UK for land based systems, has now taken to the 'air' with the development of a totally non-metallic self-supporting cable, for use along power line tower grid systems.

The cable developed by TCL, is the first of its kind in the UK and is capable of containing up to 16 single-mode fibres.

TCL has the capability to provide cable and installation management.

# PHIL TAKES CUP BACK TO TRAFFORD PARK

**THE LORD Kadoorie Cup, an award made annually by GEC Turbine Generators, has been won by Philip Chappel, a fourth year technician apprentice in the feed heating and condenser department at Trafford Park, Manchester.**

This is the fourth time that Trafford Park has produced the winner. The cup is awarded to the craft or technician apprentice who has shown the best all round ability, not only at work, but also in his involvement within the community. The choice is made from eight nominees, comprising two from each of the company's four sites at Rugby, Stafford, Trafford Park and Larne.

Mike Barrett, director and general manager, Large Steam Turbine Division, Rugby, made the

presentation in a ceremony at Rugby and congratulated all the finalists on their achievement, adding that the final choice had been a difficult one.

The winner, Philip, did his initial training at the Turbine Generators training centre at Trafford Park, followed by experience in the feed heating and condenser department drawing office, with further practical experience at Torness power station and at Larne works.

He has done well academically, and is cur-

rently studying at North Trafford College, Manchester, for his final year Higher Technicians Certificate and also 'A' Level Mathematics, after gaining five distinctions and three merits in his first year HTC. He is presently holding offers of places at two universities, Liverpool and Newcastle, both for a B Eng Degree in mechanical engineering.

His outside interests include Ju Jitsu, in which he holds a green belt, camping, abseiling, climbing, canoeing, windsurfing, swimming and five-a-side football, and until recently Philip was involved in various clubs and organisations including St. John's Ambulance, Sea Cadets, and he was an assistant scout master in the Venture Scouts.

**TWO GEC employees recently received the prestigious Design Council's, Molin Design prize 1987.**

Julian Martin, a development engineer in the Radio Networks Division of GEC Telecommunications, Coventry, was awarded the prize for a design project he completed at York University, while studying to gain a BSc honours degree in electronic engineering.

Julian's project, which is a machine to detect cracks in medicinal tablets, is about to go into production.

Craig Hodgkinson, a graduate engineer at GEC Avionics, Milton Keynes, was awarded a commendation, for improving the design of a respirometer.

## Measure

By using a respirometer, doctors concerned with respiratory ailments, can accurately measure patients'



Craig Hodgkinson.



Julian Martin.

# Deep breath as two crack design prize

breathing patterns.

The respirometer Craig Hodgkinson designed, was smaller and lighter than existing models. The air flow goes straight through rather than turning through ninety degrees. His design has made extensive use of plastic injection mouldings and he has built and suc-

cessfully tested, a prototype respirometer.

He has refined the photoelectric detector of the present model, which can be detached to allow the respirometer to be sterilised after use and the design is to make substantial manufacturing cost savings.



Philip receiving the cup from Mike Barrett, left.

# AWARD WON FOR SHOCKING PAPER

**MALCOLM Mullins, technical manager of the Circuit Breaker Division, GEC Installation Equipment, Liverpool, was recently winner of the 1986 Institution of Electrical and Electronics Incorporated Engineers Publications Award. The IEEIE make this pres-**

tigious annual award for an article which is judged to be the best for its appeal to members of the Institution and also on impact and readability.

The article was entitled 'Fault Finding on Residual Current Device (RCD) Protected Installations' and was published in two

parts in the April and July issues of its magazine 'Electrotechnology'. RCD's provide protection against electric shock in industry and the home. Their use is mandatory in many countries and the rate of adoption is accelerating in the UK. Considerable press coverage has been given in recent months to the need to use RCD protection for such items as lawnmowers and hedge trimmers following several fatal accidents.

The award was presen-



Malcolm Mullins.

ted to Malcolm by the president of the Institution, Roy McDowell, at a forthcoming Institution meeting.

# £500 tanks up new fund

**RESTORATION of a World War One tank by 180 Youth Training Scheme youngsters from Ruston Gas Turbines in Lincoln, earned £500 in a national award scheme run by BP.**

The Youth + Industry Award scheme is part of BP's Challenge to Youth programme and is designed to create closer links between young people and

industry. Awards can be won by restoring an industrial tool of the past or by creating a new one for the industry of today.

The 28-ton tank came to Ruston's after standing guard outside the Tank Museum at Bovington, Dorset, for over 30 years.

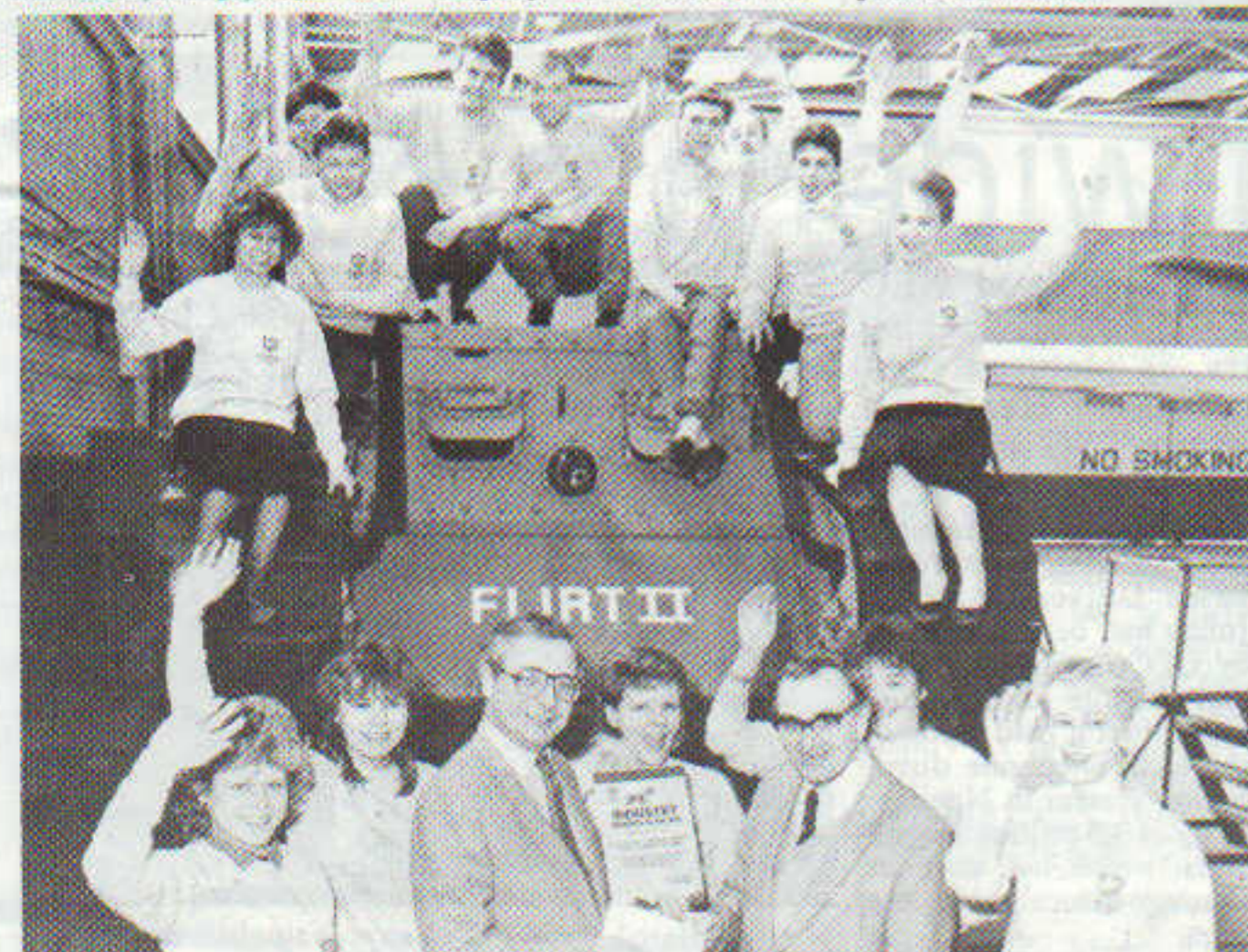
Over the past two years the 70-year-old veteran was gradually restored by the trainees.

The tank, which will eventually go on public display in Lincoln, was

entered for the award early last year and the restoration work clearly impressed the judging panel.

The £500 will be used to establish a permanent fund to finance training and development projects for more young people in the future.

"Some of these projects will generate cash and this will be used to keep the fund 'topped up'," said John Borradaile.



Some of the YTS youngsters with the tank they restored, look on as John Borradaile, Ruston's training superintendent, right, receives a cheque for £500 and certificate from Neil Munro, BP Oil's public relations manager.

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Richard Dorward



Mike Jones



Hugh Menown



Dr Ian Young



John Bailey

## NELSON GOLD MEDALS

# GEC honours five technical staff

AT A recent ceremony held at the Goldsmith Hall, London, GEC presented awards to five members of its technical staff, marking their important personal contributions to the company's progress. The awards result from a scheme set up in honour of Lord Nelson of Stafford, formerly chairman of GEC and himself a distinguished engineer.

Five awards have been made each year since the scheme was set up in 1984. The present awards bring the total to twenty.

Lord Nelson headed the final selection panel which included Professor Eric Ash, rector of the Imperial College of Science and Technology and Sir Robert Clayton, a former technical director of GEC.

### Innovative

Lord Nelson said "The Prime Minister has stressed on many occasions the need for British manufacturing industry to be innovative in its technology; its product lines and its methods of manufacture. Only in this way can the country's exports of manufactured goods be increased, imports stemmed and new jobs created in its industries. Such innovation is dependent upon a few outstanding leaders in their fields, who provide the inspiration and driving force for such work. In awarding these medals, we

are honouring people in the company who have done just this."

The winners of this year's medals are as follows:

**John Bailey** is the manager of the Ruston Gas Turbines, Lincoln.

He joined Ruston Gas Turbines as a mechanical engineer developing and commissioning mechanical components and systems. He became interested in control systems, which were first mechanical and then through a series of innovative steps, progressed to the present comprehensive, digital-based system.

### Involvement

Throughout his career, he has provided the initiative and a strong personal technical involvement in the development of control systems which has put Ruston among the world leaders in this sphere.

John has made a major technical contribution to the conception, design,

analysis, production and proving of a family of gas turbine control systems of increasing sophistication. The latest system for the Tornado gas turbine has unique facilities and contributed to the receipt of the Queen's Award for Technological Achievement and the MacRobert Award.

**Richard Dorward** is engineering manager, of the Optical Systems Division of the Transmission Group, GEC Telecommunications, Coventry.

He joined GEC as a student apprentice in 1962, before going to Cambridge University. He worked at the Hirst Research Centre, Wembley for six years, mainly on digital coding for television, before moving to GEC Telecommunications, Coventry in 1971. Since then he has worked on line systems for transmission digital signals using pair and coaxial cable and now leads the company's efforts in developing optical fibre transmission systems. He has made many contributions, nationally and internationally, to the standardisation and implementation of digital communications.

As well as his important contributions in fundamental ideas and successful implementations, he has originated over a dozen

patent applications on circuits and systems, one of which has been adopted as an international digital interface standard by the International Telecommunications Union (ITU).

### Support

With his broad knowledge of transmission equipment from circuit to system level and his ability to devise, and communicate, engineering solutions for a wide variety of transmission system requirements, Richard has also provided support for the sales side of the business.

Recently he has been involved in technical discussion with Cable and Wireless (Hong Kong) and the Guangdong Posts and Telecommunications Bureau in China which led to another optical fibre system contract in China for GEC Telecommunications. This contract is for the first major international optical transmission system for the Peoples' Republic of China.

**Mike Jones** is technical systems manager of the Guided Weapons Division, Marconi Defence Systems, Stanmore.

Mike joined GEC as a graduate apprentice in 1961. After working on guided weapons, space communications, electronic

warfare, radar and the guidance systems for the Sea Dart missile, he was appointed group leader, guided weapons anti-air research in 1967.

In 1973, he became systems manager for the development of the Sky Flash missile guidance system, in 1977 technical systems manager for the Sting Ray torpedo and was appointed to his present post in 1980.

Mike has, for 25 years, made important and unique contributions to advance technology in airborne radar, space communications, electronic warfare, underwater weapon and semi-active and active radar missile guidance.

**Hugh Menown** is director of technology, Pulsed Power of EEV, Chelmsford.

After research in Belfast, he joined EEV in 1951 as one of two engineers working on hydrogen thyratrons. Since becoming divisional manager of the Gas Tubes Division in 1965, he has built the division into one which employs 100 people and has a £5 million turnover. He was appointed director of technology, Pulsed Power in February 1987.

He is a visiting professor of gaseous electronics at St Andrews University and has been one of the Euro-

pean representatives on the international pulsed modulator committee since 1973.

Today, EEV is the principle supplier of specialised thyratrons to governments and companies worldwide. Developments and innovations to extend thyratron performance have set standards not often attained by competitors which has resulted in two Queen's Awards for Technological Achievement and an MBE for Hugh for his contribution to the export market.

**Dr Ian Young** is chief scientist of Picker International at its Wembley research laboratory.

He worked in control engineering with Evershed and Vignoles until 1976 when he moved to the EMI Central Research Laboratory concerned with magnetic resonance (MR) imaging. He joined GEC in 1981.

Since the installation of the first whole body MR imaging system at Hammersmith Hospital in 1981, Ian has worked closely with clinical colleagues under Medical Research Council (MRC) and DHSS sponsorship, pioneering many of the new techniques in this field. He is recognised as a world authority on MR, through his numerous lectures and publications.

### Research

His work at Hammersmith is complemented by a major new research project in MR spectroscopy with Picker at Wembley, soon to transfer to the MRC unit at Hammersmith.

The advances from Ian's research have found immediate application in Picker MR systems. Picker has supplied nearly 100 MR systems to hospitals in the US, Japan and Europe. Major applications include the diagnosis of diseases of the brain, spine, heart and other organs. Research is focused on areas such as the imaging and measurement of blood flow, improving image contrast and the spectroscopy of abnormal tissue both for diagnosis and the monitoring of the response to treatment.

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# Julian widens his field

TONY Snoad, managing director of GEC Telecommunications' Telephone Switching Group (TSG), Coventry, is pictured right presenting a cheque, to Julian Heaton, a development engineer, in the TSG advanced systems department.

Julian is the current holder of the TEMA Open Award which is presented each year by the Telecommunication Engineering and Manufacturing Association to encourage young engineers working in the British telecommunications industry. The award is a £2,000 travelling scholarship for study in the UK or overseas.

GEC matched the award with a further £2,000, and as a result Julian, decided

to visit China for a month. John Sumner, a lecturer at Essex University where Julian had been sponsored by GEC during his training, got him an invitation to conduct a field study of the local telephone distribution system in Nanjing, a city of 3.5 million inhabitants, which has an acute shortage of local subscriber lines.

Julian's cheque for £750 trip to China. Speaking of his trip Julian said, "It was



is the balance of GEC's award, the remaining £1,250 together with the TEMA award covered his

very valuable experience and I hope to keep up all the contacts I have made out there."

## More orders for GEC

PAXMAN Diesel has received an order worth £2 million, for engines for the latest addition to the Navy of the Sultanate of Oman — a 56 metre fast missile craft, which will join the existing three vessels of the Province class.

Four 18-cylinder Valenta engines with 4,550 brake horsepower at 1600 rev/min, will propel the new vessel, which will be used to patrol the Gulf of Oman, adjacent to the sensitive Straits of Hormuz.

Delivery of the engines is scheduled for July 1987.

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GEC Switchgear, Manchester was recently awarded a £1.2 million contract by the Department of Electrical Services, on behalf of the Government of Negara Brunei Darussalam.

The contract is for the supply and delivery of 66kV outdoor substation equipment including fifty five type FL1 dead tank sulphur hexafluoride (SF6) circuit breakers. Apart from one new substation, the FL1 circuit breakers will be used to replace obsolete bulk oil breakers.

A further important contract, of £1.4 million, has been received from the Central Electricity Generating Board, Guildford, for twenty line end sets of protection modification equipment. This is part of a continuing programme to update the protective relay equipment installed on the 400kV and 275kV national grid system.

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CYPRUS Telecommunication Authority has awarded a contract valued at £1/4 million to Telephone Cables (TCL), Dagenham.

The contract represents the first singlemode fibre telecommunication system to be installed on the island and was secured by TCL despite fierce competition from Japan, US and Europe.

The optical fibre system (approximately 125 km. cable) will run from Nicosia to Larnica and from Nicosia to Limmosol. Three types of cable will be in use: six and eight fibre for installation in ducts and six fibre for direct burial.

TCL will supply all cable and associated accessories.

# COPY DATE MAY 7

GEC Telecommunication's Transmission Group, Coventry, has been awarded a £3.8 million contract by British Rail (Southern Region) for the provision of telecommunication systems for the Waterloo area resignalling scheme.

Train movements in an area extending from Waterloo through

## Canada picks TMS

THE successful TMS (traffic management system) pioneered by GEC Traffic Automation, Borehamwood, has been chosen by the Canadian City of Red Deer as the basis of a comprehensive traffic control system designed to deal with the city's unpredictable high density traffic problem.

The order is initially required to control 47 junctions. The system will be enhanced to provide SCOOT capability, a world-beating British concept which has adaptive control operation, enabling traffic problems to be anticipated and dealt with immediately.

## KEN DIXON

ALL his many friends and colleagues will be saddened to learn of the recent death of Kenneth Dixon after a short illness at the age of 63.

He joined Metropolitan-Vickers as a college apprentice in 1940 and served with the RNVR from 1944-1946, then he rejoined M-V Switchgear (later AEI) at Manchester.

From 1960-1967 he was with AEI Overseas and

# Telecomms wins £3.8m contract

Wimbledon to Effingham Junction are to be controlled from a new signalling centre at Wimbledon that will replace fourteen existing signal boxes.

GEC Telecommunications will be responsible for supplying, installing and commissioning: a 140Mbit/s optical fibre digital line system from Waterloo to Wimbledon, 21 line system, primary and higher order multiplex equipment, and a telecommunication power plant. An electronic signal post telephone system will also be provided with trackside telephones connected to the signalling centre at Wimbledon, where calls will be monitored and switched through touch sensitive colour vdu screens. A station information vdu system will also be set up to enable continuously updated information on train movements throughout the region to be displayed on vdu screens at a number of locations.

GEC Telecommunications will also be responsible for providing the main control desk at Wim-

bledon; closed circuit tv system; miscellaneous telephones, station clocks, intercoms, fire alarms, and security access control systems. Some of the items will be supplied through sub-contractors.

The contract also includes the supply, supervision of laying and the jointing and testing of 140Mbit/s singlemode optical fibre cable and pulse code modulation and audio cables throughout the area. This work will be sub-contracted to Telephone Cables.

Project management for the contract will be provided by the Transmission Group's Technical Services Division which will undertake overall responsibility for all the work. The project is due to be completed by mid 1989.

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## NEIL KINNOCK PAYS A VISIT

AS PART of a recent tour of North Kent and the Medway Towns, Neil Kinnock MP, Leader of the Labour Party, visited GEC Avionics, Rochester's Airport works.

He had expressed a wish to see a major manufacturer and job creator, and spent an hour at the company with Tony Beirne, south regional organiser and other party colleagues.

Mr Kinnock, after being welcomed to the factory by Bill Alexander, managing director, GEC

Avionics, heard briefings with the emphasis on exports, jobs and training. He was then taken on a short tour of one of the divisions, during which he spoke with some trainees and their supervisors.

Later an exhibition of products from several divisions was explained by Mr Alexander and other senior executives.

Pictured is Mr Kinnock operating a pilot's control stick for the experimental aircraft programme watched by Mr Alexander.

## Royal Society reception

RECENTLY The Queen and The Duke of Edinburgh attended a reception and exhibition at The Royal Society, London, to mark the inauguration of the Royal Fellowships (China) which Her Majesty presented to the People's

Republic of China on her state visit last October.

As one of the sponsors of the Royal Fellowship scheme, Derek Roberts, GEC's joint deputy managing director (technical) and his wife, Winifred, representing GEC at the

reception where The Queen met them and the first Chinese researchers to receive Royal Fellowships (China) as well as others involved in the establishment, funding and administration of the scheme.



## MINISTER LOOKS IN ON MARCONI

GEORGE Younger, MP, Secretary of State for Defence, visited Marconi Communication Systems' New Street site recently.

The Minister was introduced to Marconi Communications' new managing director, Andrew Glasgow, and given a presentation on the company's products and projects by senior directors. He toured a manufacturing unit at the site accompanied by the prospective Conservative parliamentary candidate for Chelmsford, Simon Burns.

Pictured above, l to r, is Simon Burns, George Younger and Graham Williams, director of production at Marconi. The Minister is talking to test technician Nigel Fell.

# Seasonal staff savings!

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 <p><b>SLEEQUE</b> Loop disconnect, push button telephone with Earth loop recall, last number redial and volume control. In Cream and Black. <b>£21.95</b></p>	<p><b>INTERLINE 3</b> One exchange line, two extension system (third extension optional). DIY wiring. Plugs into sockets. Hold, transfer and intercom facilities. Telephones in Stone. <b>£138.00</b></p>
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## PROFILE OF RAY BAKER

# Life is about people . . . !

**"WHAT I want to achieve is very simple: to enjoy every day and whatever I do, to make it as worthwhile as possible, to recognise that life is about people." This is the view of Ray Baker, regional manager, GEC Telecommunications, Kirkcaldy.**

Ray is at the forefront of the Fife community as well as GEC Telecommunications. As he said in a recent interview with *Topic*, "You name it and I'm involved in it in Fife." He is on many committees and if he's not chairman he's president. He likes to be in control of situations, "I tend to finish up being the chairman."

Born in Nuneaton in October 1926 Ray attended Swinerton Secondary Modern and King Edward VI Grammar School. He went to Lanchester College of Technology, Coventry

position where I can influence events, that to me is important."

Ray was selected to join a team to set up a new factory at Aycliffe, in 1970 was appointed production controller in Hartlepool, then in 1973 moved to Scotland where he reorganised the production control.

Ray is now in his 10th year as regional manager in Scotland and through his work and example he has carried the workforce with him.

"We have a very separate and independent indus-

these interests and GEC closer together. He serves as a council member for both the Glenrothes and Kirkcaldy Technical Colleges and is connected with Fife's regional educational department. A liaison group now works on problems and opportunities for bridging the gap between education and industry. For instance, the pupils and teachers of Kirkland High School, visit GEC Telecommunications for a couple of weeks every Summer and do on-the-job training. In fact, GEC and Kirkland High School received the Royal Society of Arts Award for Industry in 1986. Ray is proud of this and the certificate has pride of place in the company's reception area.

In Fife the Youth Training Scheme is important as unemployment is very high. As in so many GEC companies throughout the UK this scheme is strongly supported by Ray, "We have continuously tried very hard to do something about unemployment levels. We have taken great interest in the Youth Training Scheme. At GEC Telecommunications the YTS is happily encouraging young people — the latest statistics indicate that a good proportion get jobs within GEC or elsewhere.

Ray is enthusiastic about another scheme, "We have an Information Technology centre which Sara Morrison (a director of GEC) opened. This centre works to a high standard. Recruitment is quite selective. We take anybody in the YTS and do something for them. The ITec is hi-tech stuff and we need to recruit a bit selectively. It works well and we place virtually all young people from the ITec in good jobs."

"We are also heavily involved in Young Enterprise, this is in liaison with the schools. We (GEC) advise and help a group of pupils decide on a product, set up their own business with a board of directors and learn how business really works. They make things and sell them. They actually have to have shares and pay a dividend at the end of it. I'm amazed at how well they do it all and the sort of profits they make! It is real hands on experience for them as to how you run a business."

Fife Regional Council formed an equal opportunities sub-committee which Ray was asked to join, "Considering what we could do in this sphere to make the issues more apparent in Fife, we decided on, the disabled:—

lets do something positive for disabled people and the community. In GEC, I think we've done quite well. In this company alone we employ over 50 disabled, many of them unregistered. This is quite a percentage these days even for a company with a thousand employees." GEC Telecommunications, Kirkcaldy in fact won a Fit for Work Award in 1986.

Another success for Ray was the Centenary Year celebrations at the Adam Smith Centre, Scotland — the five GEC manufacturing companies in Fife — Yarrow Shipbuilders, Kelvin Diesels, Marconi Instruments, Marconi Command and Control Systems and GEC Telecommunications all took part. Ray masterminded the whole event, "We had a superb exhibition showing the products and services. In the evening we put on a variety of our own shows and raised quite a lot of money for charity."

### Church

Ray has done a lot to bring the church and industry closer together. He is a member of the General Synod and also the Administration Board, a member of Vestry of St Luke's Church, Glenrothes, and West Regional Chapter representative for the Diocese. He is also a member of the Church of Scotland Industrial Mission. "We also have two industrial chaplains, one is the church of Scotland because we are in his Parish and the other is Episcopal. To begin with I wasn't quite sure what we were trying to do. I just invited all the local clergy in one day to have a look round so that the church could get a better understanding of what we are doing and why. The two chaplains visit on a regular basis now. It does work well from all points of view and the workforce have someone they can talk to in confidence if they wish to do so."

As a member of the Equal Opportunities sub-committee he and the Bishop decided that a workshop would be set up for the unemployed so that they could drop in at any time and do their own thing, be taught a skill or experience various disciplines, GEC provides a lot



Ray is greeted by John Lee, MP, Parliamentary Under-Secretary of State, Department of Employment and Bryan Nicholson, chairman, Manpower Services Commission at the Fit for Work Awards reception held at Lancaster House, London recently.

of equipment and the workshop is run by skills advisers.

### Unemployment

Unemployment is Ray's main concern for the future. "Unemployment amongst all age groups is very high round here. It's worrying, I'm very conscious that we must try to do all we can to improve this situation. Obviously there is a limit to what GEC, or indeed any one employer can do, but all can help a bit.

"We must look to the future and we must concentrate more on what people are to do with their leisure and most particularly the three million who have total leisure and little or no money to enjoy it. I feel passionately about these things. I am trying hard, within this community to do something positive. As a large employer I believe we can fly the flag."

"Following an employment conference with local industrialists the Fife Economic Forum has been formed. There's about 20 of us involved, and it's sponsored by Fife Regional Council. The chairman is the Convenor. I was surprised and pleased to be elected vice-chairman at its first meeting and encouraged to do my own thing. This Forum is bringing together industry and the local authority to look at all sorts of ways and means of how we can use resources to greater advantage on behalf of the unemployed and enhance the economic prospects of the locality."

Another project in which Ray participates is the Fife Science Park. Built by the local author-

ity, it became a white elephant. It had excellent central services and workshops, but they didn't know what to do with it. A committee was set-up with a Venture Capital group. Eventually an idea was born based on the Spanish idea from the Basque country — the Mondragon experiment, started several years ago by a local Catholic priest and operated by workers co-operatives, which became extremely successful. It was decided to try this concept in Fife. "We wanted to exploit the current thinking and give people a share in the business." Ray thinks this maybe a good way forward. The people coming from unemployment to work in the Science Park will be able to borrow from an interested bank and pay it back over a period. They will have a stake in the business. "I've never yet met a group of people who, if you involve them fully and support them adequately don't make it successful. I'm very excited about this scheme. We're now ready to press the button and try it."

### Fulfilled

What is it that makes Ray tick? "Life is about people," he says, "It is about other people and helping them to do things, to motivate themselves. That is really what I try to do in the community and here in GEC. It gives me tremendous satisfaction. I may sound arrogant, but I don't think I will ever look back and say I wish I had done something else. I feel fulfilled in the things that have been able to do."



Ray presenting trainees with their YTS certificates.

and before joining GEC he started his working life with the Post Office, as an engineer.

### A career in GEC

When Ray started with GEC, 37 years ago, he began on the shopfloor. Even then he had strong views about how things should be done, telling the manager where he had got it all wrong. While it did not go down too well at the time, later on it was recognised that Ray had something to offer and in fact he was promoted straight from the shopfloor to superintendent in about three years. Ray says, "It wasn't in any sense ambition for the power of the position. I don't think my career has ever been that. It's making sure I'm in a

try which is quite active in Fife. The beauty of Fife is its a place you can readily identify with, it's small enough and you very quickly know all the people. Down south where you become part of some great mass somewhere, it's difficult to identify. Here in Fife it's very easy."

Ray is also closely associated with the Edinburgh Chamber of Commerce.

In Fife the Association of Professional Institutes flourishes to a large extent through its president, Ray. Another of his major interests is the Kirkcaldy District Chamber of Commerce. He was its president until recently.

Ray is respected for his work in education and the church. He tries to bring



L to r: Sara Morrison, Sir George Sharp, Convenor Robert King, Provost Mill and Ray with the colourful floral display at the Centenary Exhibition, Scotland.

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## New jobs in prospect at Larne

SECRETARY of State for Northern Ireland, Tom King, MP, recently commented on the news of a £20 million investment by GEC Turbine Generators at its Larne plant, bringing with it the prospect of a further 100 new jobs over the next year.

"This is good news for those already working at Larne and good news for those extra workers GEC may now be taking on", Mr King said.

"It is particularly encouraging that GEC should choose to make the investment in Northern Ireland, building on the confidence it has gained in the capabilities of a plant which has now been in operation for some 30 years.

"I am confident that the investment programme announced, which is the product of many months of discus-



## Test of skill

PROFESSOR Heinz Race" is pictured testing his skill on GEC Energy Systems, Whetstones

sion between GEC and the Industrial Development Board, augurs well for the plant's future development and is another welcome and positive development on the Northern Ireland industrial front."

The GEC investment programme will include the re-organisation and re-equipment of the 500,000 square feet factory, the installation of new sophisticated equipment and a major programme of training and retraining employees.

## LARGEST EVER PAXMAN ORDER

THE US Coast Guard have announced contracts worth over \$US130 million for a further twenty-one of the 110-foot Island Class cutters first ordered in August 1984.

Paxman Diesels, Colchester, has been awarded a contract worth \$US42 million to supply 62 of its successful 16-cylinder Valenta diesel engines as main propulsion units for these new boats, these are in addition to the forty-eight engines recently supplied for the existing Island Class fleet.

This is the largest value single order received by Paxman Diesels in its 121 year history.

This new order includes spare engines, and further spare parts orders are anticipated.

Managing director Jack Fryer said: "We are delighted and very proud that our Colchester built diesel engines have been chosen for the propulsion units of this vital project and can only strengthen the high regard our products hold in overseas markets."

## USSR BUYS FROM GEC

Cont...

passing through the spray booths.

This follows a recent valuable order received, by GEC Robots for a spraying line at the Likino Bus producing factory near Moscow.

In addition to these orders, discussion continues with USSR mac-

chine tool and chemical equipment manufacturing industries for the production and marketing of GEC robots and other advanced technology products. Agreements are expected to be signed within the next three months.

This order follows one recently received by the GEC Electrical Projects' Marine & Offshore Division for a duplex dynamic positioning system to be installed in the vessel Caspian Diver under construction at the Finnish Yard, Valmet.

## Avery efficiency rewarded

W & T Avery, Smethwick, recently won the Business Efficiency Award, co-sponsored by The Birmingham Post & Mail Limited, Entre Computer Centre Birmingham and KMG Thomson McLintock, management consultants.

The competition was designed to attract entries from companies which had

achieved a significant increase in business efficiency.

W & T Avery received the award for successfully investing £20 million over the last five years in new technology and training, showing that it had adapted to the electronic age and the threat of flooded markets.

popular mini-manipulator display.

The company put on the display to accompany a lecture given in Derby by Colin Gregory, who heads the work being undertaken currently on the prototype fast reactor (PFR) at Dounreay.

### Organised

Professor Wolff chaired the event, which was organised by Rolls Royce and associates and the Institution of Nuclear Engineers. The accompanying exhibition was also open earlier to local school children.

## Security key for two clubs

CLUB committees throughout the country are finding security an area of increasing concern. Keeping track of who is on the premises and curbing vandalism are particular problems facing many clubs.

Two Conservative clubs recently found the answer to their security problems, when they installed GEC Reliance access control systems.

By using the access control system, a club can issue each of its members with an entry card or key. Entry can then be gained by slipping the key or card into a reader, which is mounted outside the door. Non-members can gain entry by using an audio door entry system, linked to handsets sited conveniently inside.

### Removed

A particular advantage of the system is that if renewal subscription is not paid on time, members key or club card numbers can be removed from the system. Lost cards and keys can be removed from the system in the same way.

With an optional printer



added to the system, a detailed record in the form of a hard copy printout can be produced listing all movements by members into the club. This can be used for example, to monitor use of the club by new members, or it could help to identify possible vandals.

The range of access control equipment offered by GEC Reliance, can accommodate any number of members up to 6,000, and the system is a cost effective and reliable method of maintaining security in a large club.

The Conservative clubs were so impressed with the system, that an article by GEC Reliance's Tim Want, area sales manager in the industrial and leisure services department, Bracknell, recently appeared in the Conservative Club Magazine, in order to promote the use of the Reliance access control system.

## Marconi's new mobile radio

MARCONI Mobile Radio, Chelmsford, has completed a contract to supply and install its

latest mobile radio in 98 of the West Midlands Ambulance Service's front-line ambulances.



Marconi's RC640 mobile radio being used in the hand-portable mode.

# SUCCESS IN CHINA FOR TELECOMMS

GEC Telecommunications, Coventry, recently announced that it has won contracts for the supply and installation of optical terminal and repeater equipment and digital multiplex for the Hong Kong to Guangdong optical fibre system, and for UXD5B high-performance digital telephone exchanges, for the People's Republic of China.

The £1.3 million optical fibre system contracts, placed by Cable and Wireless (HK) and the Guangdong Posts and Telecommunications Administrative Bureau (GPTB), will provide a digital system with an ultimate capacity of 46,080 telephone circuits. Initially equipped for 7,680 circuits to carry telephone, telex, telegraph and 64kbit/s data traffic, the optical fibre link will complement the existing analogue microwave and coaxial cable systems currently in service.

This contract is the latest of several contracts to be awarded to GEC Telecommunications for optical fibre systems in Hong Kong and in China.

Dafydd Edwards, director and general manager of the company's Transmission Group said, "These are important orders and further proof that British industry can beat full international competition to win major contracts on prices and technical capability. With these latest orders GEC Telecommunications is rapidly increasing its presence in the Far East.

GEC Telecommunications' announcement that it has won an order for UXD5B high-performance digital telephone exchanges from the People's Republic of China, also indicates its growing in-

fluence in Asia.

Richard Reynolds, managing director of GEC Telecommunications, stated "The fully digital, microprocessor controlled exchanges will provide modern communications for smaller communities in China's Guangdong Province. They provide a cost-effective combination of digital and analogue capability for exchanges between 100 and 2000 lines with advanced features normally only associated with large urban exchanges. It was this combination which won us the order."

## FIVE STAR CONTRACT

FOLLOWING last October's success in securing a contract to supply lifts in Shanghai's Telecom Building, The Express Lift Company, Northampton, has just won another contract in this Chinese city.

This time Express Lift will be supplying nine gearless high speed lifts for the new five star Jin Cang Mandarin Hotel.

Scheduled for completion in two years time, the 30 storey hotel will be one of Shanghai's largest hotels.

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# The French comp

ON 30 October 1986, there were celebrations at Sellindge in Kent, as the 2,000,000 kilowatt Cross Channel power link between England and France was completed and handed over, on schedule, to the Central Electricity Generating Board (CEGB) for full commercial operation.

GEC Transmission and Distribution Projects, Stafford, was the main electrical contractor for the UK terminal of this £760 million Anglo-French project which also involved ten other GEC companies.

The high voltage direct current (hvdc) 73 Km submarine link is now providing the CEGB and with the ability to either import or export power.

The link provides a supplement to the generating capacity of both power authorities, particularly in times of emergency. During the cold weather in January when there were periods of excessive demands on both sides of the channel, power was transferred at the appropriate times in each direction. Power produced is equivalent to 1500 mega-

watts of spinning reserve in each (as much as a large power station).

There are a number of technical factors which determine the choice of hvdc rather than the more conventional method of ac interconnection. Primarily, it permits each system to operate at its independent frequency. Rapid control of the power transfer is available to suit the operational requirements of each system. Also the economics of dc submarine cable links of this length compare favourably with equivalent ac cables.

## THE FIRST CABLE LINK

The first Anglo-French link, commissioned in 1961, lay between Lydd in

the UK and Echingen. Capacity was only 160 megawatts and the link suffered frequent damage over the years from ships anchors and fishing trawls, until it was finally decommissioned in 1982.

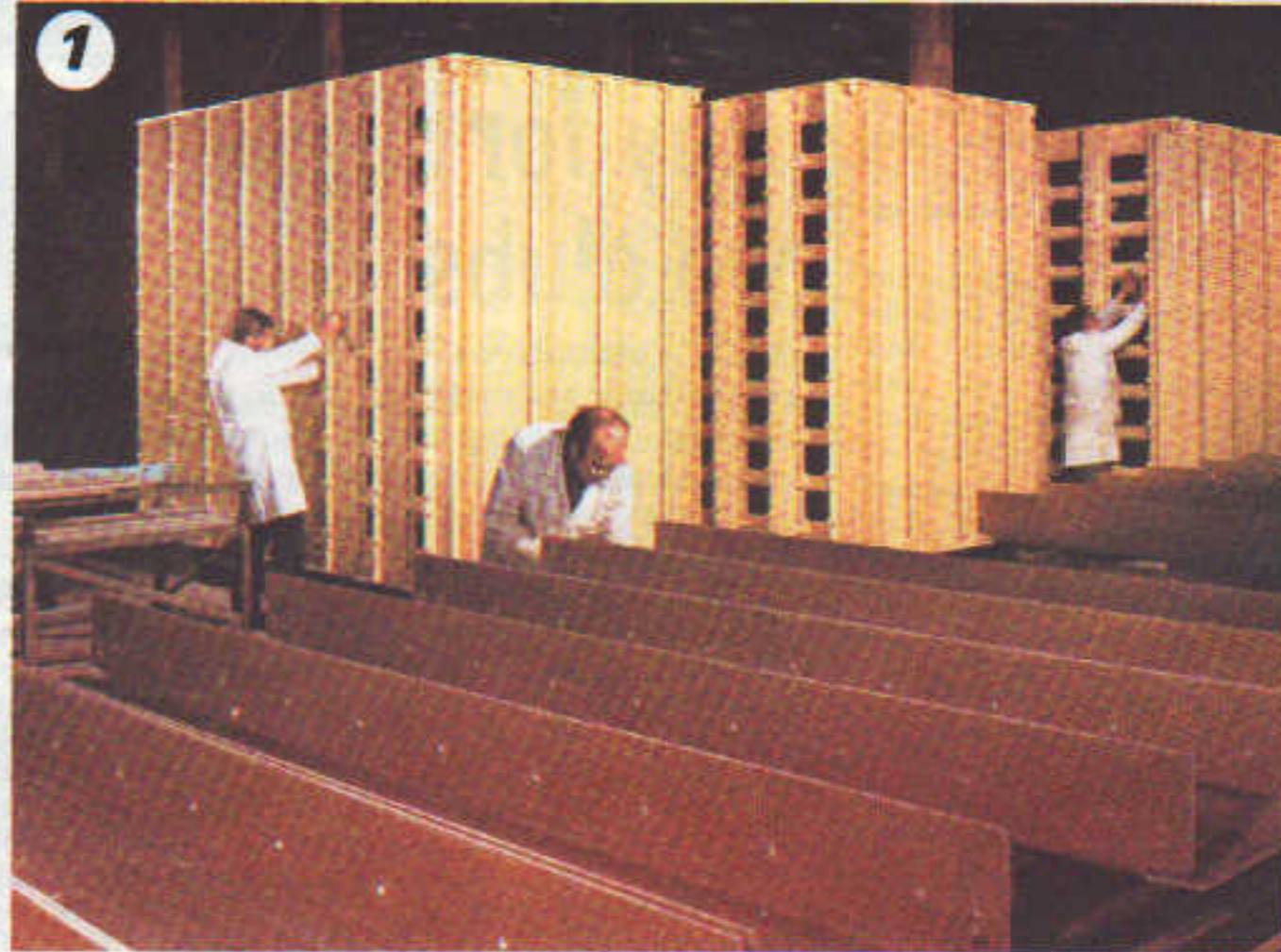
To overcome the cable problem, the new link cables were buried in

trenches 1.5 metres in the chalk sea bed using specially constructed remotely controlled underwater machines. Although this increased costs it was critical in reducing the chances of damage and subsequent interruption of supplies. The Cross Channel project is the first

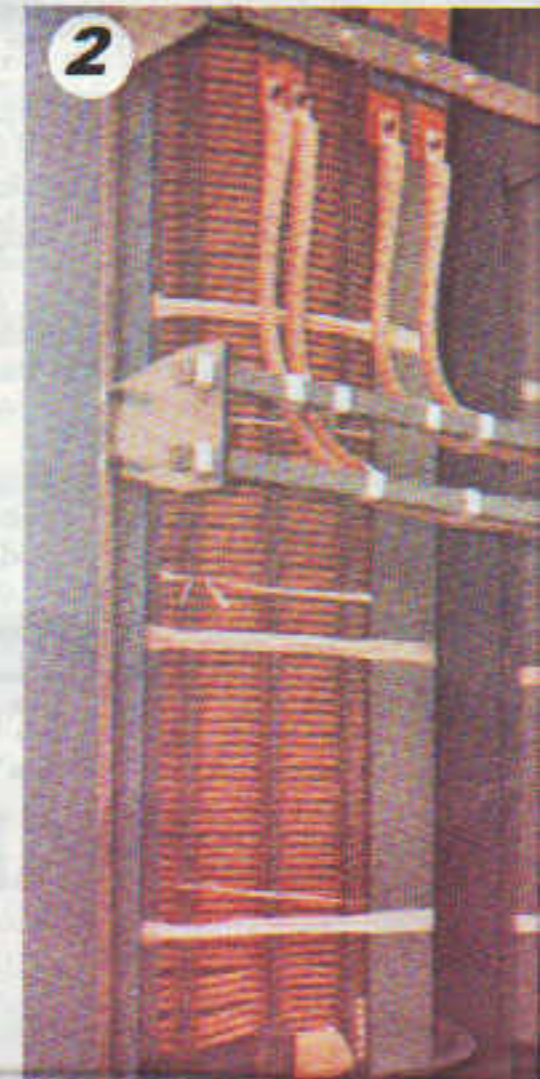
of its type where different main electrical contractors have been employed at each end of the link. The successful co-ordination of this scheme demonstrated the high degree of both administrative and technical rapport achieved between GEC, Compagnie General d'entreprises Elec-

trique of France and their respective customers.

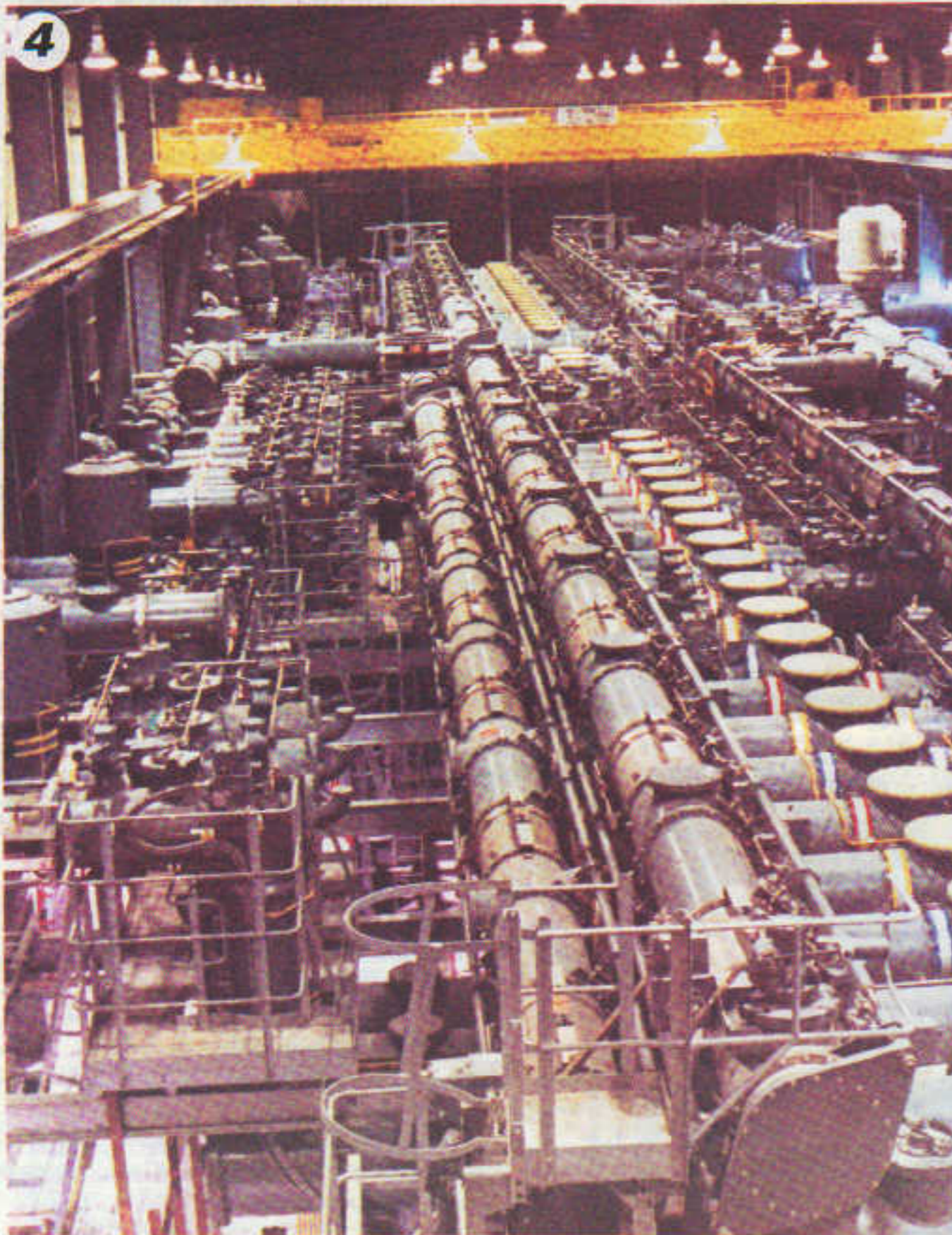
The site is crossed by existing 400kV overhead line between Dungeness and Canterbury, allowing a connection onto the national grid. A public enquiry was necessary to gain planning consent in spite of its location between a



1 GEC Reinforced Plastics in conjunction with GEC Research — Stafford Laboratories, manufactured the hvdc valve support structures by autoclave moulding and valve module cases by hot press moulding.



2 Cleat side of one of the two saturated



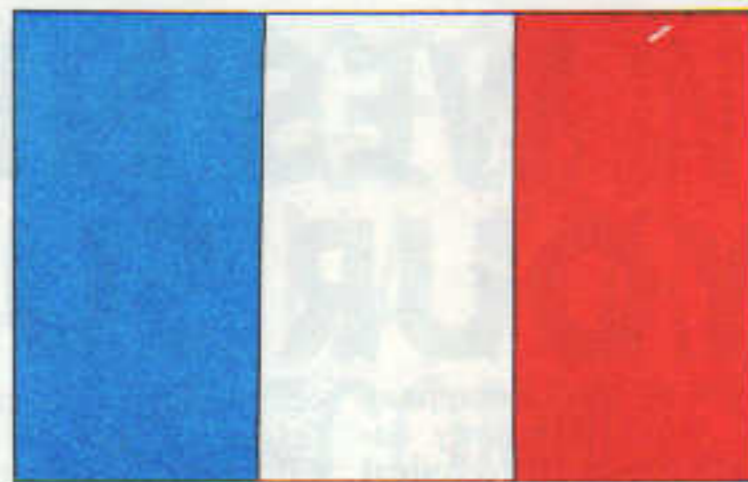
4 Internal view of the 420kV SF<sub>6</sub> gas insulated switchgear substation. One of the largest installations of its type in the world, occupying approximately one tenth of the space compared with a conventional outdoor substation.



4 The converter station at Sellindge, the UK terminal of the submarine power link between Great Britain and France. See other photograph on this page.



# connection leted



railway embankment, the M20 motorway and a sewage farm.  
The converter station at Sellindge provided important work for many GEC companies. In addition to the overall electrical engineering and project management role as main electrical contractor, GEC Trans-

mission and Distribution Projects was also responsible for the development and manufacture of the converter valves and electronic controls which are at the centre of any hvdc scheme. In the last five years 40 per cent of the work-force has worked on the project. The company

was also responsible for the design and supply of the 400kV ac harmonic filters and static var compensators essential for voltage control of the 400kV busbars at Sellindge.  
GEC is the only company in the UK capable of the design, manufacture and supply of converter

stations for HVDC schemes and competes with four other companies throughout the world in a limited, but growing market. GEC companies supplying a wide range of products were: Marconi Electronic Devices — thyristor assemblies, diodes, thick film hybrids and cellmos;

GEC Power Transformers — 400kV step down transformers, saturated reactors, ac and dc connection reactors; GEC Switchgear — control and protection panels; GEC Reinforced Plastics — valve structures and module cases, GEC Distribution Transformers — module reactors; GEC

Industrial Controls — resistor assemblies and compensators; GEC Measurements — relays and instruments; GEC Engineering (Accrington) — thyristor level assembly clamps GEC Installation Equipment — module fuses and Woods of Colchester — valve cooling fans.

GEC Switchgear under a direct contract with the CEBG supplied the 400kV substation valued at £10 million, which is the largest gas insulated switchgear metalclad substation in the UK.

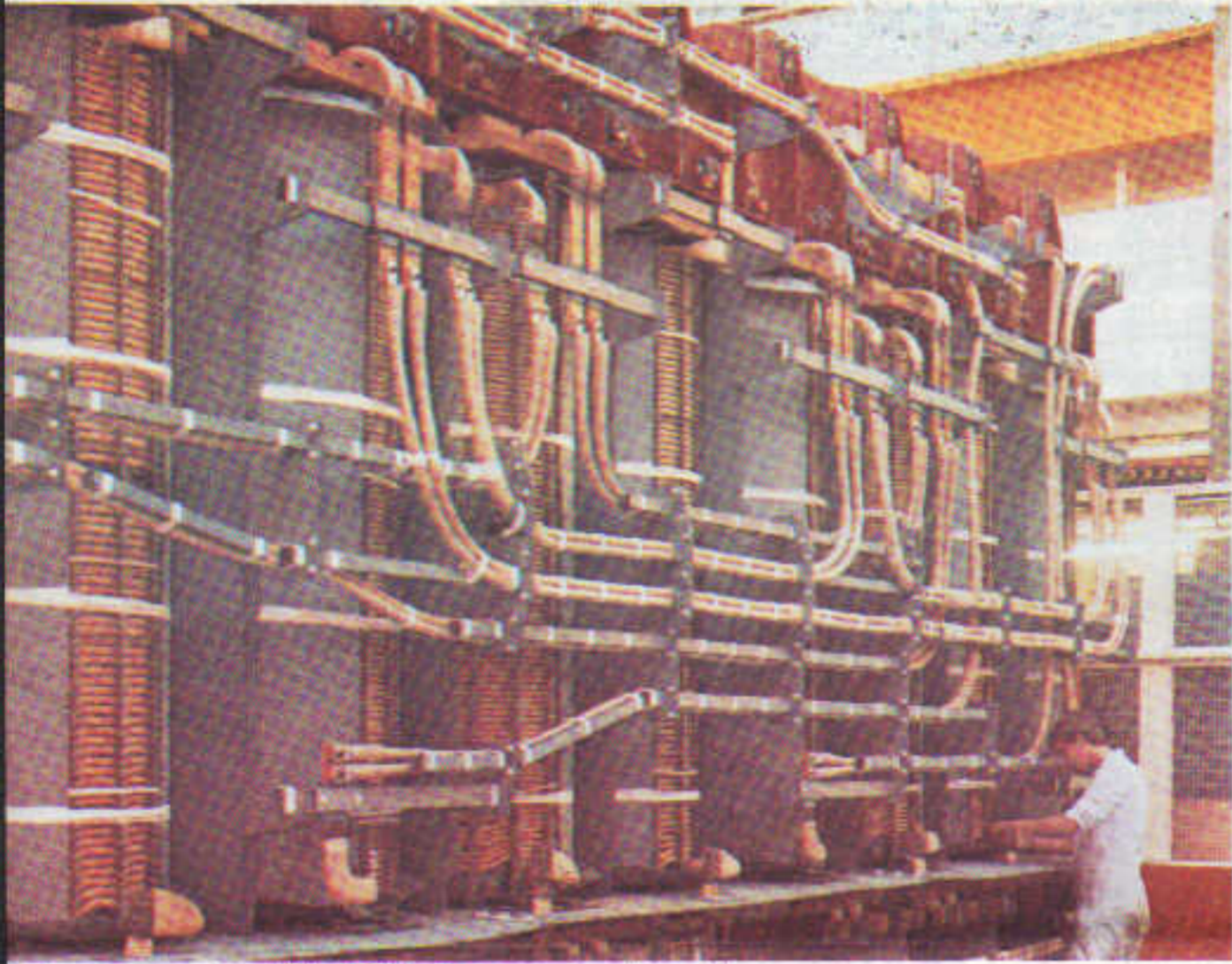
GEC Transformers also, under a separate £1.75M contract broke all records when it built, at Stafford, a series reactor containing the largest core ever manufactured in Europe.

The total value of work to GEC companies was worth £100 million and it has been particularly successful.

## SUCCESSFUL CONTRACT

Completed on time, the link provided some 6000 man years of work for the company over five years. It provides the CEBG with operational flexibility and the economic benefit of a pay back period of five to seven years.

GEC Transmission and Distribution Projects recently developed a new generation of water cooled valves enabling a reduction in size, construction time and costs of future converter stations. There may be a possibility of further links with France to complement the present CEBG programme for nuclear and coal fired stations and provide more of the benefits afforded by the new 2000MW hvdc link.



ed reactors rated at 190 MVA, the largest in the world.



Internal view of one of the four converter valve halls at Sellindge, showing valves made by GEC Transmission and Distribution Projects.



Britain and France. The numbers indicate the locations of the GEC equipment, shown in the

A 56mm thyristor and basic unit, manufactured by Marconi Electronic Devices. 12,000 of these were used in the Cross Channel link.

# WES NEEDS YOUR SUPPORT

SUCCESS for a company like GEC, is heavily dependent on its technical abilities and, consequently, the calibre of its technical staff is important.

Women are under-represented in technical areas; for example, they account for only 7.4 per

cent of GEC's central professional research staff. Efforts are being made to remedy this situation, by the Women's Engineering Society (WES), of which GEC is a member.

The society was formed in early 1919 with two main aims, firstly, to pro-

mote the study and practice of engineering by women and secondly to provide a forum for the exchange of ideas between women engineers. It has grown from a small group of women to a present membership of approximately 700 individuals.

In recent years there have been concerted efforts by the society to recruit more women into engineering and industry, and to improve their career prospects. 1984 saw 'Women into Science and Engineering Year' (WISE '84), organised by the Equal Opportunities Commission and the Engineering Council, in which WES was a principal participant and GEC continues to be an active supporter. The most recent venture is the Women's Fellowship scheme, organised by the society to assist women returning to the profession after a career

break. This has attracted over £280,000 in sponsorship, including sponsorship from GEC Research which has been awarded to Dr Betty Johnson to study information technology at the Department of Physics, Imperial College, London.

Various events are held throughout the year, ranging from careers talks to works visits. Last year there was a visit to the British Telecom research laboratories, and a meeting on careers development at the Hirst Research Centre, Wembley. The society provides speakers to schools and organisations, supplies a display stand to exhibitions and offers advice to anyone interested in the role of women in engineering and science.

## Responsibility

Dr Eileen Read, an assistant director of the Hirst Research Centre, with responsibility for the work on silicon technology, is on the council of the society. She sees its role as being both encouraging and supportive: encouraging women to enter the field and supporting them once they are there. She

cites the society's excellent work in participating in school talks and careers conventions, demonstrating to girls not only that a career in engineering is a real possibility, but that it can be rewarding and challenging too.

Eileen sees the support that the society can give in terms of advice and the sharing of experiences as being immensely valuable, particularly for women trying to carve out careers in traditionally male-dominated areas. Having companies as members also goes a long way towards challenging the climate of opinion. Lastly, a particular pleasure offered by the society, says Eileen, is the opportunity to meet distinguished women engineers.

Two other GEC employees who are active members of the council are, Barbara Stevens a project engineer, Marconi Communications Systems, Chelmsford and Heather Mariner previously a software engineer, now University and Schools Liaison Officer for GEC.

who are members of the society, and the WES contacts at these companies are as follows: The Hirst Research Centre, Wembley, Jenny Duncan, GEC Telecommunications, Coventry, John Lorrigan, GEC Avionics, Rochester, Caroline Burn and The Marconi Company Stanmore, John Shrigley, (Barbara Stevens and Heather Mariner).

Please get in touch with any of the above contacts if you need advice, or if you feel there is anything you can contribute to WES. Companies that are not yet members are strongly urged to join.

## Success in Young Careerist award for Christine

CHRISTINE Cook, a development engineer in the Space and Broadcast Division of Marconi Communication Systems, Chelmsford, was runner-up in the regional final of the Young Careerist of the Year award held recently.

During the ceremony, Christine spoke about her work developing control systems for earth stations and other communication systems and her involvement with the Institution of Electrical Engineers. She also described her liaison with local schools, encouraging young people to take an interest in engineering as a career.

Christine was nominated for the award by the Chelmsford branch of the UK Federation of Business and Professional Women after a recommendation by Maureen Hickinbotham, Marconi Communication Systems' employee relations officer.



Christine Cook.



Lynne Holt, software development engineer at GEC Telecommunications, Coventry, is a member of WES.

# CAREERS

APPLICANTS (men and women) with suitable qualifications are invited to apply for the positions advertised here. They are some of the vacancies which are regularly circulated to personnel departments throughout GEC.

## AEI CABLES

Master scheduler

The GEC-Henley Division of AEI Cables, is seeking applications from candidates with at least three years experience in a manufacturing environment in areas such as stock and production control, production planning or materials systems for the position of master scheduler.

The role of the successful candidate will be planning of manufacturing resources to meet customers orders. Tasks will include the evaluation of market forecasts and conversion to manufacturing load and the management and control of customer order intake to establish customer due dates.

## Manufacturing controller

The GEC-Henley is also looking for applications from candidates with at least three years experience in a manufacturing engineering for the position of manufacturing controller.

The job entails continuing improvements in the utilisation and control of manufacturing resources. Tasks will include production scheduling and capacity planning, shop loading and control of manufacturing orders.

Please apply to: Kay Worrell, Personnel Officer, AEI Cables, Gravesend, Kent, DA11 9AF.

## HOTPOINT

### Production management

Two junior management positions in Hotpoint's manufacturing department are now available.

Successful applicants will be responsible for the achievement of production requirements, both in terms of output and quality including the supervision of up to 100 skilled and semi-skilled employees. Candidates should have an engineering background at a supervisory level, ideally with a knowledge of the production methods involved in one or more of the following: motors, compressors, plastics, PCB's and domestic appliance assembly.

### Works chemist

Reporting to the quality manager, this position's responsibilities will include control of laboratory staff and production of specifications for new and existing processes and components.

Applicants should have a degree or HND in industrial chemistry and have worked in a light engineering production environment.

Experience should include chemical analysis i.e. spectroscopy, X-ray, microscopy and mechanical testing covering a range of the following materials: plastics, rubber, urethane foam, oils, metals and paints.

## Design engineers

A mechanical design engineer is required to either join the team responsible for home laundry products or assist in the development of refrigerators and freezers.

Candidates must be qualified to HNC/HND or degree level in mechanical engineering or a related subject and should combine a flair for conceptual design with the ability to follow the design through laboratory tests to production. Applicants will preferably have experience of high volume production methods and plastics, die-casting or metal forming.

## Electronic design engineer

Also require is an electronics design engineer who will be experienced in microprocessor applications including software and hardware instrumentation, and in digital and analogue design.

Responsibilities will be varied, as the electronic design engineer will work in a small team, which provides the full electronics design expertise for the complete range of company products.

## Systems analysts

A systems analysts is required to work in the company's IBM/DEC environment with MAESTRO software development system.

Hotpoint is developing major systems in the finance, sales, manufacturing, distribution and service departments and now require two additional analysts to support the increasing departmental workload.

Applicants should be able to combine two years experience as an analyst with a good knowledge of data-base/data analysis.

## Plastics Technicians or Engineers

The company recently renewed its vacuum forming machines and added several new injection moulding machines (with robot attachments). It now manufactures a high proportion of plastic components for Hotpoint products.

Two plastics technicians or engineers are required to take responsibility on a three shift system for improving tooling equipment, analysing operating conditions and advising on any changes required.

Applicants should be technician apprenticeship trained in plastics, and have some practical experience of injection moulding/vacuum forming techniques.

Please apply to: Beverly Middleton, Hotpoint, Celta Road, Peterborough, PE2 9JB.

## OSRAM-GEC LTD, WEMBLEY FACTORY

### Factory systems development analyst

A person around 30 years of age, is needed with experience in business systems and a practical background in manufacture to continue the programme of computer systems in the field of accounts, stock control and general control statistics.

The successful candidate will be expected, after a period of familiarisation, to use their initiative and work with limited supervision and be able to communicate effectively both verbally and in writing.

Please apply to: D. A. Ingram, Osram-GEC, P.O. Box 17, East Lane, Wembley, Middlesex, HA9 7PG.

## ENGINEERING RESEARCH CENTRE GEC RESEARCH, WHETSTONE

### Graduate engineer

An excellent opportunity exists for a graduate engineer to join a small enthusiastic team of researchers in the field of fluid power control. The work involves research into all types of hydraulic systems and components, both for civilian and military applications.

Ideally applicants should be innovative in their approach and have experience in both the theory and practice of hydraulic system and component design. Some knowledge of systems analysis and simulation techniques would be an advantage.

Please apply quoting ERC 924/H3, to Mrs S J Leftley, GEC Research, Engineering Research Centre, Cambridge Road, Whetstone, Leics, LE8 3LH.

## GEC COMPUTERS, BOREHAMWOOD

### Commercial manager

A commercial manager is required at the Borehamwood establishment to provide a commercial service to the Application Systems Group which operates in a fast moving worldwide marketplace.

The successful applicant will have extensive experience in either the contracts or financial field, or preferably both and will have the energy and enthusiasm necessary to meet the variety of challenges in this dynamic and demanding role.

Please apply enclosing full career details to: J Carden, personnel department, GEC Computers, Elstree Way, Borehamwood, Herts, WD6 1RX.

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# KAREN'S ROYAL PRESENTATION

KAREN Heath, a technician engineer in the Guided Weapons Division of Marconi Defence Systems, Stanmore, was recently presented by the Duke of Gloucester with her prize as runner-up in the Girl Technician of the Year Award.

Presented annually by the Caroline Haslett Memorial Trust and the Institution of Electrical and Electronics Incorporated Engineers, the award was this year contested by over 100 entrants. Each was marked on their work record and the example

set in encouraging other girls into the engineering profession. The award ceremony was held at the Royal Society of Arts in London.

Karen began her career as an apprentice with Marconi in 1982 and was last year promoted to technician engineer. She represents the company on visits to local schools, was a member of the Marconi Defence team in the GEC National Young Employees Competition, and helped form the Young Employees Society at Stanmore.



Karen receiving her prize from the Duke of Gloucester.



# Find the famous name

HERE is a *Topic* competition for you to try and a super GEC (Radio & Television) prize to be won!

Somewhere, in this jumble of letters are the names of ten countries, which may be written horizontally, vertically, diagonally, upside down

or even back to front. All you have to do is first find the ten countries and then use the first letter of each one to spell out the name of a person well known in GEC.

### Great prize!

The first all correct answer picked out, will win GEC (Radio & Tele-

vision) New Century C1659 tv which is a 16-inch manual television with monitor style presentation, finished in Vienna brown metallic with colourful red graphics. It has eight soft touch programme selectors, for analogue controls and a telescopic indoor aerial.

It also comes with a full one year guarantee.

### Competition rules

1. Ring the names of the ten countries clearly.
2. Fill in on the entry form the name of the well known person.
3. The first all correct entry picked out will be the winner.
4. The winner will be notified in writing as soon as possible.
5. Entry is open to all employees, retired employees and their immediate families.
6. Send your entry to *Topic*, Country Competition, The General Electric Company, plc, 1 Stanhope Gate, London W1A 1EH.
7. All entries must arrive no later than May 14, 1987.
8. Editor's decision in all matters is final.

B R O M A N I A P E L  
 A Z N O R E S N F A R  
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 P U R S O T Q U I L M  
 Z I E I T H R O T A A  
 V E N A L I S A L N I  
 N A M I B O T T L P C  
 E A T U W P A A C I A  
 D E M A R I I U N J A  
 E P L O T A R K E Y W  
 W E S K I M P T P S I  
 S O L A G U T R O P L  
 M A L D A V U A T I C

ENTRY FORM

Name.....

Address.....

.....

.....

Company.....

Name of personality.....

**DEADLINE: May 14 1987**

## LETTERS TO THE EDITOR

### Calling all ergonomists

A NUMBER of ergonomists at Marconi Command and Control Systems, Easams and Marconi Instruments are trying to establish a technical information group to interchange information. This is a specialised area, but one which is of vital importance in many of GEC's product areas.

#### Involved

We would like to hear from any ergonomists, human factors engineers or anyone who is concerned/involved with the design of man/machine interfaces.

We plan to exchange technical information, through perhaps a newsletter, and arrange technical discussion groups. Other activities would be determined once the group has been established. Anyone interested in this technical group should contact

any of the following to be put on the initial contact list: Kay Coombes, MCCS C<sup>3</sup> I Systems Group, Chobham Road, Frimley, Camberley, Surrey GU16 5PE; John Hallan, MCCS BATES, Chobham Road, Frimley, Camberley, Surrey GU16 5PE; George Ward, Easams, Lyon Way, Frimley, Camberley, Surrey GU16 5PE and K Tara Smith, Marconi Instruments, Longacres, St Albans, Herts AL4 0JN.

We look forward to being able to establish this area of interest in GEC on as wide a coverage as possible.

K E Coombes  
 Human Factors  
 Consultant  
 C<sup>3</sup> I Systems Group

### Save money, read Topic

THANK you for saving me £64!

Recently the postman brought the renewal notice for my car insurance. It requested a premium of £158 which was an increase of £33 on the last year.

During the day I picked up a copy of the latest issue of *Topic* and noticed an advertisement offering competitive rates of motor insurance for GEC employees. So I telephoned the insurance office and obtained a quotation of just £94 for the same cover.

The formal documents arrived the next day and having checked the details in writing I have taken up the lower quotation.

M. G. Knight  
 EEV,  
 Chelmsford.

### Grants for the family

THERE must be many sales representatives who are unaware of the existence of The Royal Pinner School Foundation, which is an educational trust set up for the purpose of assisting by means of grants and awards in the education, up to the age of 25, of sons and daughters of sales representatives where the family has suffered adversity.

The majority of children assisted attend local state schools, colleges of further education, university or special schools in the case of handicapped children, and financial assistance is given towards school clothing, books, tools, school trips, field courses, music, etc.

If any of *Topic's* readers would like to have further information I would be pleased to send them, on request, a copy of our leaflet.

A. Thurtell, Secretary,  
 The Royal Pinner School Foundation, 110 Old Brompton Road, London SW7 3RB.

### Tips for the garage sale

20 June 1987 has been designated National Garage Sale Day by the Church of England Children's Society. The society is appealing for thousands of supporters to hold garage and garden sales, to produce funds for the society's urgent work with children, young people and families on that day.

The appeal asks supporters to hold sales on 20 June. Tips on how to organise a garage sale are available free from the society, and for those willing to hold a sale, publicity material will be supplied.

#### Dispose

A garage sale is a chance to dispose of accumulated odds and ends from the cellar, loft or attic and those who take part in The Children's Society's garage sale day will also have the satisfaction of helping a good cause.

For tips on organising a sale, or for further information about the sale, contact: Garage Sales, Room GSI, The Children's Society, Edward Rudolf House, Margery Street, London WCX 0JL.

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 Rugby (0788) 2465.

# Pet proud photographs



WELL DONE *Insite* (the magazine for GEC Measurements, Stafford). Both *Topic* and senior management at Stanhope Gate were impressed by the good quality and charm of the February issue which ran an imaginative pets photograph competition.

#### Participate

*Topic* is now inviting all the other units to participate in an international *Topic* pets picture competition, to show how many talented photographers and pets there are around GEC.

All you have to do is hold your own site competition. You need to appoint an organiser who having found your local pets picture winner will send the entry to *Topic*, where it will be judged, by an appropriate expert. More details to be printed in due course.

#### Organise

Please let us know if your site would like to join in and organise a local competition by filling in the coupon below, sending it to Pets Photo Competition, 1 Stanhope Gate, London W1A 1EH.

Organisers name.....

Company.....

Location.....

.....

We wish to take part in the photo competition.  
 Please return form by 29 May 1987.

## GEC OVERSEAS CLUB

# Club call for new recruits

The annual general meeting of Council will be held at the GEC sports pavilion,

Hillmorton Road, Rugby, on 30 April, 1987 at 5.30 pm. A buffet meal will be provided. Please attend and air your views.

### Annual dinner

This year the annual dinner will be held in the provinces and Coventry has been chosen as the venue. It will be held at the De Vere Hotel, Coventry, on 4 November 1987. The principal guest is Sir John Egan, chief executive, Jaguar Cars. Detail will be circulated in due time by your centre. Please reserve this date in your diary.

### Inter-centre golf

Rugby centre is the organising body for this year's competition. It will be held at Kirby Muxloe Golf Course, Leicestershire, on 16 September.

### The history of the club

The GEC Overseas Club has a history over 60 years and from those early beginnings has developed into a membership of over 4,500 dispersed worldwide.

### Recruitment

In recent years there has been few new members joining in overseas territories and it is the council's endeavour to instil recruitment so that the younger generation can maintain the momentum of the club's object and activity. There could be many who are eligible to join and who wish to do so. Please write to the secretary of club council for an application form. The life membership subscription is £5.00.

### Fellowship

We would ask the "travelling" members of our club to make contact with the membership in the territory they are visiting and it is hoped that those coming to the UK will do likewise. It will engender the good fellowship which is the object of the club.

### New members

We are pleased to welcome to membership: Lincoln - R. D. Eveleigh, London - D. G. G. White and R. A. Couchman, Manchester - R. J. Porter, J. Loftus and J. Feenen, Rugby - T. Smith and K. Wakeley, Stafford - J. M. Kirk, S. C. Galliers, B. A. Rowe, I. R. Taylor, J. R. Utley, R. A. Farman, A. T. Kirkman, I. Armstrong, C. Gifford, I. E. Barker and R. I. Somerville.

### CHELMSFORD

A special visit to the Mercury Theatre in Colchester to see a performance of Alan Ayckbourn's play 'Intimate Exchange,' preceded by dinner in the theatre restaurant took place on 27 March. The party of 17 travelled by mini bus from Chelmsford and thoroughly enjoyed the entertaining evening.

An additional event will be organised on 19 September probably a stately home visit and barbecue.

### COVENTRY

The customary cricket matches will be arranged during the season and further social outings and rambles will be announced.

### LINCOLN

'Well done, Jacques'. An evening of ten-pin bowling, with buffet to follow, was held at the Lincoln Bowl on 22 February. The overall winner was Jacques Benichou who came over from Paris especially to take part. His best score was 134 and he shows great signs of improvement. He led his team to victory in a three-cornered two game play-off.

### LONDON

Twenty-five members and guests went to the Palace Theatre, Watford, to see 'Spotted Dick'. This play was originally put on in 1939 and ran for seven days, stopping when war was declared.

A large gathering of members enjoyed Mr Hemingway's presentation relating to the London Docklands development. Eddie Sims' vote of thanks said it all for those present.

We look forward to good attendance at the AGM and club lunch at the Naval Club on 10 April. Agendas may be obtained from the secretary on application and in any case will be distributed to regular attenders of club lunches.

Ted Grace, centre secretary recently retired from GEC on 28 February, but will continue in office until the AGM. Rowley Abbey of GEC Transportation Projects, Long Acre is assistant secretary. Write or ring Long Acre as you have done in the past.

### MANCHESTER

'Birky leaves his mark'. Trafford Park and Switchgear will not be the same now that 'Birky', chief commissioning engineer, Derek Birkinshaw has recently retired.

Derek, who is taking early retirement after 45 years service has covered the world for his company. His first job, as a commissioning engineer, was in Egypt in 1950 which was the start of his travels which covered the Middle East, North and South America, Hong Kong, Malaya, Australia, Spain and France. He returned to Trafford Park in 1959 as assistant chief commissioning engineer and was appointed chief in 1968. Derek has also lectured at universities and exhibitions.

His retirement ends a 200-year link between his family and Trafford Park. His father and uncle each served 52 years with Westinghouse and Metropolitan-Vickers and his mother also worked at the Park. In his younger days Derek was a keen rugby player with Sedgley Park and was much in demand when he refereed matches in Colombia at 9000 feet above sea level. In retirement he hopes to catch up with some reading, writing and teaching.

Derek had served the Manchester centre of the Overseas Club as chairman and secretary and is a past vice-president.

### PORTSMOUTH

A beer and skittles evening was held at HMS Dryad on 18 November attended by 30 members and family. The branch annual general meeting will be held at HMS Dryad on 10 April to be followed by a talk to be given by D. Bartlett on 'The Raising of the Temple of Augustus Caesar from the Nile'. Plans for the summer will include a barbecue and a day on the water. Also under consideration is the forming of a supper club.

### RUGBY

The annual dinner of the Rugby centre was held at the Benn Hall on 25 February attended by 120 members and guests. The dinner was chaired by Alan Brown, the centre's president who proposed the toast to the guests in the absence of Jim Cronin called away on business. The principal guests were Ron Burbridge OBE, CEBG Barnwood, Geoff Holroyde, director Coventry (Lanchester) Polytechnic and Eddie Sims, chairman of club council. Council representatives from Coventry, Lincoln and Stafford centres were among the other guests.

### OVERSEAS CLUB DIARY

#### CHELMSFORD

- 17 July Cheese and Wine Party and visit to Marconi archives
- 13 Aug Golf Day at Forresters Park
- 16 Oct Annual Dinner
- 17 Dec Christmas Cocktail Party

#### COVENTRY

- 13 May Social Evening Golden Lion Easenhall
- 4 June Golf v. Rugby at Rugby G.C.
- 5 June Bowls v. Rugby at Coventry
- 12 June Golf v. Manchester at Branstion G.C.
- 23 June Golf v. Rugby at Grange
- 9 July Golf v. Stafford at Brocton G.C.
- 17 July Croquet at Dunchurch
- 25 Aug Presidents Trophy at Stratford on Avon G.C.
- 8 Oct Bridge v. Rugby at Willans
- 11 Nov Bridge v. Rugby at Grange

#### LINCOLN

To be advised

#### LONDON

- 30 Apr Golf - Druce Cup
- 13 June Summer Outing - Visit to Watercross Line
- 10 July Club lunch
- 30 July Golf - W. J. Bird Tankard
- (-) Aug Gilbert & Sullivan Festival Grim's Dyke Hotel
- 9 Oct Club lunch

#### MANCHESTER

- 6 May Annual General Meeting
- 26 June Braaivleis en Tickiedraai
- (-) July Canal trip
- 4 May Golf - Centre Tournament at Ashton on Mersey G.C.
- 12 June Golf v. Coventry at Branstion G.C.
- 30 Oct Carvery Dance Wendover Hotel, Eccles

#### PORTSMOUTH

To be advised

#### RUGBY

- 9 May Golf v. Stafford at Rugby G.C.
- 4 June Golf v. Coventry at Rugby G.C.
- 5 June Bowls v. Coventry at Coventry
- 19 June Ladies Evening at Ashlawn
- 23 June Golf v. Coventry at Grange
- 6 July Presidents Trophy
- 17 July Croquet at Dunchurch
- 8 Oct Bridge v. Coventry at Willans
- 11 Nov Bridge v. Coventry at Grange

#### STAFFORD

- 9 May Golf v. Rugby at Rugby G.C.
- 9 July Golf v. Coventry at Brocton G.C.

Ron Burbridge, in reply, commended the Overseas Club for its worldwide organisation. He reflected on achievement in the long partnership between the CEBG and GEC in the export field and the need to set targets for long term strategy. He spoke of the importance of the Power Plant exhibition at Barnwood and welcomed the GEC's participation. The future should be guided by confidence, perseverance and vision.

Geoff Holroyde, being an ex-employee, - English Electric in 1961 and Dunchurch Management College, recalled memories of those days. Now as director of the Coventry Polytechnic laid emphasis on the correct training and learning to serve the engineering industry. He was encouraged by the trend of greater flexibility in education and training when real

learning can be fun. He proposed the toast to the Overseas Club and its members.

Eddie Sims responded with thanks and emphasised the need for the club to continue to promote good fellowship by encouraging those who travel to link up with their fellow members in overseas lands and to uphold the strength of the club by recruitment to membership from the younger generation. He expressed thanks to the Rugby centre for the excellent organisation and to the caterers for a splendid meal.

### CANADA

The centres annual dinner will be held at the Royal York Hotel, Toronto. The date, either 14 or 21 May, will be advised to members.

#### OVERSEAS CLUB

#### SECRETARIES

##### Council:

P. R. Watson  
1 Stanhope Gate  
London, W1A 1EH  
Tel: 0203 452152  
Telex: 31361 GEC TEL G

##### Chelmsford:

A. D. Christelow  
EEV  
Chelmsford CMI 2QU  
Tel: 0245 261777  
Telex: 99103 EEV CMD G

##### Coventry:

D. J. Twigger  
GEC Telecommunications Ltd  
Coventry Point  
Coventry CV1 1PJ  
Tel: 0203 54988  
Telex: 31361 GEC TEL G

##### Lincoln:

A. E. Garside  
Marconi Electronic  
Devices Ltd  
Doddington Road  
Lincoln LN6 0LF  
Tel: 0522 688121  
Telex: 56380 MEDL G

##### London:

E. E. A. Grace  
132 Long Acre  
London WC2E 9AH  
Tel: 01-836 3444  
Telex: 21403 GEC LAG

##### Portsmouth:

J. Rowlinson  
Marconi Underwater  
Systems Ltd  
Elettra Avenue, Waterlooville  
Hampshire PO7 7XS  
Tel: 0705 264466

##### Manchester:

B. Andrews  
GEC High Voltage  
Switchgear Ltd  
PO Box 132, Trafford Park  
Manchester M60 1AF  
Tel: 061 873 2431  
Telex: 667152 GEC MCR G

##### Rugby:

A. P. Fletcher  
GEC Large Machines  
Mill Road, Rugby CV21 1BD  
Tel: 0788 2121  
Telex: 31671 GEC MCR G

##### Stafford:

F. Brown  
GEC Power Transmission Div  
Lichfield Road  
Stafford ST17 4LN  
Tel: 0785 57111  
Telex: 36203 GEC PTD G

##### Hong Kong

A. R. Murray  
GEC of Hong Kong Ltd  
Tel: 5-8938282  
Telex: 73098 GHONG HX

##### Canada

P. S. Tambe  
GEC Canada Ltd  
Tel: 416 624 8300  
Telex: 06 961280 GEC CAN  
MSGA

##### Canada:

Centre rep:  
N. Holmes  
2 Heathwood  
High Street  
Tadworth  
Surrey KT20 5RB  
Tel: 073 781 3476

# Aycliffe engineer gets MSc



Robert Forbes.

**ROBERT Forbes**, chief production planning engineer, operations department of GEC Telecommunications, Telephone Division, Newton Aycliffe, recently gained an M.Sc. with distinction, from Teeside Polytechnic.

Robert joined GEC Telecommunications in the summer of 1980 after completing an electrical and electronic engineering HND at Newcastle Polytechnic.

As an equipment engineer, he was involved in the design of telephones and small switching systems; joining the design

team responsible for the successful Ambassador and Senator telephone ranges.

### Fellowship

Robert successfully applied for a GEC Fellowship in the spring of 1985 so that he could study 12 months full-time for a M.Sc. in computer-aided

engineering at Teeside Polytechnic.

The course gave a thorough grounding in the engineering and computing disciplines, including subjects such as: software design, numerical methods, computer-aided design, computer-aided manufacture and management of CAE. Included in the course was the study of robotics which involves the programming of robots for automated assembly.

For the last twenty weeks of the course, Robert was engaged on a project which involved the machining from 3-D computer graphics, in order to help the Telephone Division reduce the time it takes to produce plastic parts in a modern telephone.

Robert was not only successful with his M.Sc. results, but he was also awarded the Apollo prize for 'Best Student of the Year'.

# COLLEGE AWARD FOR AVIONICS' APPRENTICES



Judith Hill receiving her prize from Cecil Parkinson.

**JUDITH Hill** and **John Murphy**, apprentices with GEC Avionics, Borehamwood, were recently presented with prizes by Cecil Parkinson, MP, at De Havilland College's

award ceremony in Borehamwood.

### Outstanding

Judith, a second year technician engineer apprentice, won the Marlow Prize, awarded for outstanding effort on the General Engineering

Appreciation course run by the college.

Judith commented, "Naturally I am very pleased, especially since there were only four girls in a class of twenty-five students. Clearly, there's increasing scope for women to make a career in the traditionally male professions".

### Performance

**John Murphy**, a second year electrical craft apprentice, won the Lloyds Bank Prize for his performance on the college's City and Guilds Electrical Engineering Part one course.

John said, 'It's very rewarding to have your efforts acknowledged — currently I'm enjoying the challenge of the second part of the course.'

**ERNEST (Ted) Grace**, regional director of GEC Corporate Sales, Long Acre and Hetty Parker, his secretary, both recently retired after giving many years of service to GEC.

Ted Grace, joined British Thomson-Houston in 1945 as a sales engineer and was later promoted to sales manager. He then moved to AEI, Rugby, in 1959 as sales manager, machines.

# Two goodbyes at Long Acre

Between 1970 and 1979, Ted spent a period away from GEC. On his return, he became regional manager of GEC Transmission and Distribution Projects, Long Acre.

In 1984, Ted took up a new position as regional director of GEC Corporate Sales, a post he held until his recent retirement.

Ted gave many years of valuable assistance to the

Overseas Club in his role as overseas secretary for the London area. He is also a water polo enthusiast, and is well known as a referee in this sport.

Henrietta (Hetty) Parker retired after thirty two years service.

Hetty joined The English Electric Company in 1955 as a secretary.

During her time with the company, Hetty has

worked as a secretary to a number of people, her last position was that of secretary to Ted Grace.

Hetty has belonged to a keep-fit movement for many years and hopes to carry on keeping in shape for a few more years.

### Energy

She is also an active member of the International Fund for Animal Welfare, and now that she has some spare time, Hetty intends to devote more energy to the activities of the fund.



John Murphy receiving his prize.

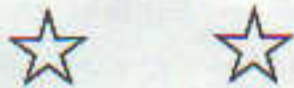
# APRIL CROSSWORD

Entries should be sent to Topic, GEC, 1 Stanhope Gate, London W1A 1EH. They must arrive here by May 14. Please mark your envelope April Crossword.



## PRIZES

The three items we have chosen as prizes for this competition are either kitchen scales, a telephone or a soldering iron.



## FEBRUARY WINNERS

THE first two all-correct entries drawn at random from the February crossword submissions came from **D Milledge**, AEI Cables, Gravesend and **M Robertson**, Marconi Command and Control Systems, Hillend.

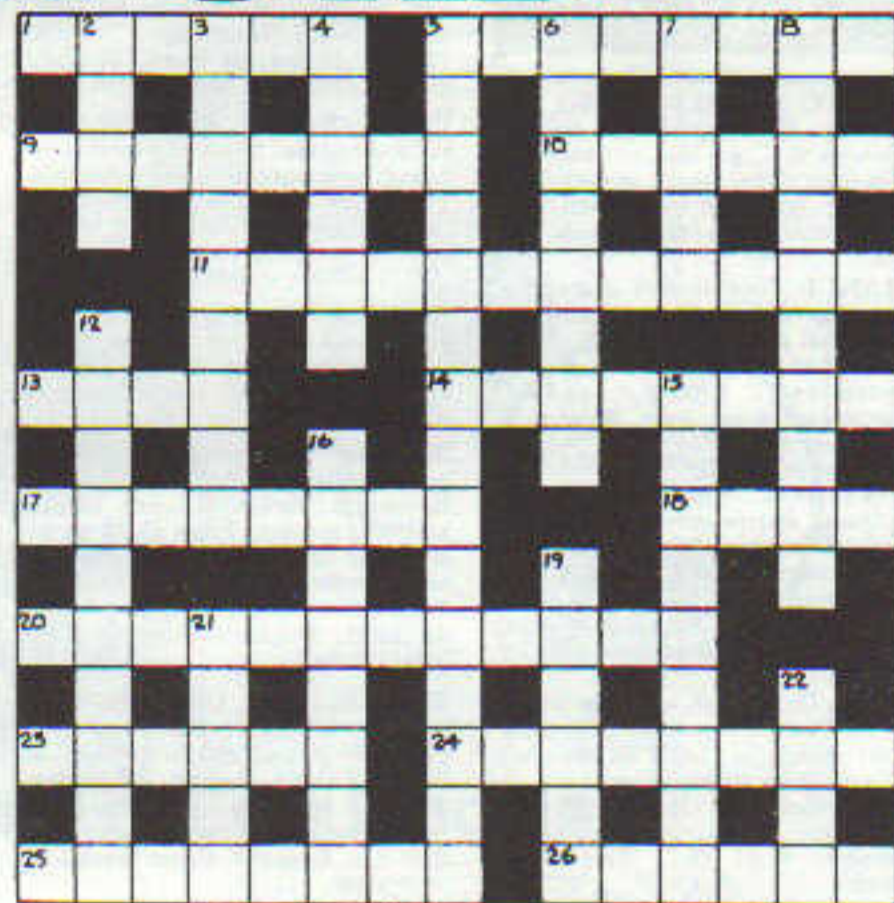
### ACROSS

1. Suit for gardeners (6)
5. Suit for a girl's best friend? (8)
9. Press is confused about car crash involving fiddlers (8)
10. A way of secondary importance in another country (6)
11. One gained by holding knave, but received a blow on the head (3,3,3,3)
13. German count ultimately flying with airmen (4)
14. "Invincible"? Yes — first lieutenant might have been taken aboard (8)
17. Colour that makes servicemen depressed (4,4)
18. Girl held in some esteem, maybe (4)
20. Mixed spice added to beer given at opening of important affair (7,5)
23. Just over £50 readily converted into cash (6)
24. Part of arrow one can see in fortified tower (8)
25. Plant of Galium genus — couch perhaps — for recurring warts? (8)
26. Return the records

and ask about giving talks (6)

### DOWN

2. Four complete suits for rugby forwards (4)
3. Old Gran extremely flustered about brightly coloured insect (9)
4. Points to part of Denmark and its neighbour (6)
5. Diana's discovered some joint in which a member's suffered injury (10,5)
6. Some iguana the man displayed — an object of abhorrence (8)
7. Old car maker losing capital goes in for scent manufacturing (5)
8. Completely punctual, though late getting on the Irish mainline express initially (4,2,4)
12. Large family of lions, and what their parents may feel (5,5)
15. Excellent existence if you remain strong, it's often said (5,4)
16. Beautiful flowering shrub round famous rowing club (8)
19. Is informed about model suit (6)
21. Suit for strikers (5)
22. The only sailor in a suit (4)



### ENTRY FORM

Name .....

Address.....

.....

.....

Company.....

Prize.....

\* Stone, Buff, Tulip, Red and Gunmetal

\* Telephone colours — delete unwanted colours

DEADLINE: May 14, 1987

## February solutions

### ACROSS

8. Wisteria; 9. Offend; 10. Firm; 11. Now and then; 12. Stated; 14. Eye teeth; 15. Granite; 17. Impaled; 20. Admonish; 22. Rakish; 23. Fire alarms; 24. Acme; 25. Repent; 26. Strangle.

### DOWN

1. Sinister; 2. Stem; 3. Droned; 4. Mayweed; 5. Moonbeam; 6. Off the mark; 7. Insect; 13. Ten to seven; 16. Triplets; 18. Ensemble; 19. Theresa; 21. Driver; 22. Resort; 24. Anna.



## Coventry awards for GEC five

PICTURED above are five winners of major awards from Coventry Technical College, all of whom are employees of GEC Telecommunica-

tions, Coventry. From left to right are: Darryl Maclean, Hayley White, David Baker, Jacky Wileman and Ravinder Singh Bains.

Hayley, an installation design engineer in the Defence Systems Division, won the City of Coventry Freeman's Gold Award for the craft apprentice who has shown the best endeavour.

Jacky, a systems planning engineer, in the transmission group, won a £45 GEC prize for consistently good results and top placing in most subjects throughout her information technology course.

Ravinder, a technician engineer trainee, who is still attending college, won the British Telecom Award for achieving dis-

tinctions in all subjects on his BTec Telecommunication certificate.

Darryl and David, both trainee commissioning engineers, in the Telephone Switching Group, working on System X, won Institution of Electrical and Electronic Engineers (IEEIE) awards, for outstanding project work on their HND Electronics and Communication Engineering course.

### Presented

This was the second year that the awards had been presented, and the second year that the IEEIE award, was made to two trainee commissioning engineers in GEC Telecommunications' Telephone Switching Group.

## Marconi barges in



FIVE second-year apprentices from Marconi Defence Systems, Stanmore, recently took part in a 100-mile fund-raising barge trip.

In navigating the Grand Union Canal between Nash Mills in Hemel Hempstead and Stoke Bruerne in Northamptonshire, the apprentices raised almost £800 for the Dr Barnardo's child care foundation, thanks to individual sponsorship and donations from the company and other local businesses.

Pictured above are the apprentices presenting the cheque at Barnardo's Ilford, Essex head quarters. From left to right: James Heselwood, Guided Weapons Division, Brenda Napier, Satellite Communications Division, Paul Metcalfe (trip organiser), Programme Evaluation and Review Office and Linda Sapsed and Peter Stray Satellite Communications Division.

## 200 YEARS WITH WOODS

WOODS of Colchester recently honoured four employees, who each completed fifty years service with the company and their wives, at a dinner held at Dedham. Presentations were made to them by David Priest, managing director.

Ken Terrey, senior technical specification clerk, joined Woods of Colchester in 1936 as a clerk in the materials control department. He left in 1941 to join the Royal Air Force and in 1946 rejoined the company as a specification clerk in his old department. He held several

clerical positions until March 1979 when he became a mechanical specification technician. In January 1981 he moved to his final job.

Alfred 'Digger' Kettle, technical clerk, joined the company in 1936 as a machine operator. He left in 1942 to join the RAF



and was re-employed in 1947 as a machine operator. In 1954 Digger became a rate fixer in the production engineering department.

He then held a series of engineering posts until 1970 when he became a technical clerk. His final position of technical clerk

was in the electrical engineering department.

Robert Bridle, dismantler and report assembler, joined the company in 1936 as a motor assembler. He left in 1940 to join the RAF and was re-employed in 1946 as a fitter assembler in Specials works and transferred to Braiswick works in 1952. In 1955 he joined the aerofoil section as an aerofoil assembler and in 1966 he transferred to his present position in

service repair.

Douglas Salmons, rotor/stator builder setter operator, joined Woods of Colchester in 1936 as a rotor builder. He left to join the RAF in 1942 and returned to the company in 1946 as a rotor builder in the press shop. He moved to his present job in 1974.

Pictured left to right are, Douglas Salmons, Albert Kettle, Ken Terrey and Robert Bridle with UK sales director, Henry Nicoll.

# CLASSIFIED COLLECTION

### HOLIDAYS

**SELSEY**, in sunny Sussex. Six berth caravan. Two separate bedrooms, showers, w.c., gas elec. On lively site with three clubs, two swimming pools, fun fair, pub and shops. 400 yards from beach. From £60 per week. Tel: (04862) 61554.

**FRANCE**. New luxury apartment, very near Monte Carlo. Sleeps six, communal pool, private beach access, fabulous views. Available August 22-September 12. £200 p.w. to GEC Marconi employees only. Write to C. R. Bates, P.O. Box 9506, Peking, China for full details.

**PORTUGAL**. Modern luxury two bedroom apartment with beautiful views of beach and countryside from the balcony. Situated in Luz Bay, an old fishing village, with one of the finest beaches in the Algarve. Available all year. Reasonable terms. Tel: 01-427 3121.

**EYAM**, Derbyshire, old stone cottage in the Peak District National Park. Fully equipped, £40-£90 per week depending on season. Send s.a.e. for details, Mrs. S. P. Harrop, 36 Hertford Close, Woolston, Warrington, Cheshire WA1 4EZ. Tel: (0925) 818893.

**BOURNEMOUTH**. Richmond House Hotel. Five course dinner, cosy bar, 10 per cent discount for GEC staff. 1986 prices maintained. Contact: 108-110 Parkwood Road, Bournemouth, BH5 2BN. (0202) 421977.

**COSTA DEL SOL**. Extensive three bedroom duplex holiday flat with communal swimming pool, near Marbella. Completely furnished and equipped. Only 10 minutes walk from beach. Tel: Mr. S. Maybank, Aldershot (0252) 330259, evenings.

**WEYMOUTH**, Bowleaze Cove. Six berth, end bedroom caravan to let. Clubhouse on site. One minute to beach. Tel: S. E. Hall, Coventry (0203) 413049.

**SEASIDE** or countryside. Enjoy a guest house on the promenade at Barmouth. Beautiful sandy beach, harbour, scenery. From £8.50 pp or self cater in cedarwood bungalow in secluded farm in picturesque Dovey Valley from £56 per week. Group discount. Details/brochures, Tel: (0341) 280603.

**ELON** villa hotel, Cliftonville. Short distance to beach, shops, bowling green. 23 ground and first floor bedrooms. Two t.v. lounges. Tea garden. Licensed bar with dance floor, pool table, amusements and entertainment. B.b.e.m. from £64. Easter break £35. Tel: (0843) 292747.

**BOURNEMOUTH**, Southbourne, guest house near sea, shops, buses. B.b.e.d. from £74 weekly. Parking available, excellent food and comfort. Short breaks £12 daily. Kinwil, 19 Southern Road, Bournemouth, Tel: (0202) 429215.

**CLACTON**. Detached holiday chalet, sleeps four. All electric, shower, tv, heater, radio, fridge, on site with shop, play park and bar. Enquiries: s.a.e. to Boyton, 26 Victory Road, Clacton, Essex or phone, Clacton 433970 evenings or answerphone daytime.

**BLACKPOOL**. Central Darfield Hotel, situated close to town centre and Winter Gardens. Offering good food and homely atmosphere. June, special b.b.e.m. £59 incl., weekly. For further details and brochure write to Pauline and Ed Jones, 54 Charmey Road. Tel: (0253) 21736.

**SHROPSHIRE**. Nice food at small, friendly guest house, nestled in beautiful hill country, close to Welsh border. Peaceful haven away from everyday pressures, but also excellent touring base. Good walking, two crowns, licensed, C.H., real fires. B. b. from £10. Tel: (0743) 791401.

**CALPE**, Costa Blanca. Villa, sleeps six, swimming pool. Convenient for amenities and beaches. Available June and September onwards. £85-£150 p.w. Tel: (0494) 782867.

**MAJORCA**, Cala Mayor. Two miles from Palma. Two bedroom apartment, sleeps six persons. Sun terrace overlooking sea. Outgoing flight and apartment for four persons sharing inclusive, from £185 p.p. For further details tel: 01-953 9287 or write to A. E. Orchard, 70 Ripon Way, Borehamwood, Herts.

**FOR HIRE**, luxury mobile home. All mod. cons. On four star site at Agay in south of France. April-September, £90-£175 per week. Tel: (0646) 600711.

**NORFOLK**, Eccles Beach. Three bedroom bungalow, brick built and fully equipped to sleep six. Ideal position, with large garden backing into sandhills, giving direct access to large sandy beach. For further details, contact R. Taylor, Leicester (0533) 858787.

**NORTH WALES**, Betws-y-coed. Come at any time to this charming Georgian guest house in Snowdonia National Park. Beautiful views, golf, fishing, and walking. Within easy reach of north and west coasts. En-suite facilities, licensed, bed and breakfast from £11. Tel: (06902) 202.

**CORNWALL**. Farmhouse, b.b./e.m., en-suite. Falmouth six miles, handy for both north and south coasts, splendid rural views. From £8.00 per night pp. Contact Mrs. C. Warren, Clifden Farm, Tel: (0872) 863849.

**LANZAROTE**. Luxury villa, sleeps two to four, swimming pool, tennis courts, close to beach. From £160 per week. Tel: (0992) 467852, evenings.

**FOR SALE**

**DEJON** 14 cabin day boat. Yellow topside, white hull, remote controls for outboard plus steering facilities. Navigation lights fitted. Cushions for cabin. Cabin floor carpeted. Fitted canvas weather cover for open stern. Asking price £395. Tel: Medway (0634) 409683.

**BASS** amplifier. Trace Elliot, 250 watt, seven-band graphic equaliser, two-speed fan, v.g.c. £260 o.v.n.o. Tel: Basildon 282794 (evenings).

**CARAVAN**. 1981, Sprite Alpine. Four berth, toilet compartment, fridge, awning, mains wiring. Excellent condition. £1,400. Tel: Southfleet (047483) 3361.

**TENT**. Four berth frame tent. Good condition with separate two compartment inner tent. £100 o.n.o. Tel: Sarah, Camberley 683193. Evenings.

**MILITARY** cap badges, British, good selection. Send for catalogue. Contact, Harry Jones, 402 Rectory Road, Falcon Lodge, East Sutton Coldfield, West Midlands. Tel: (021) 329 2615.

**BRUNA** wheel, "move your caravan with ease". Good condition. Fits in place of normal jockey wheel. £25. Also towbar for maestro witter type, complete with two sockets, wire and flasher unit. Good condition, with fitting instructions. £25. Tel: Adams (0268) 781126.

### PROPERTY

**LINCOLN**. Large end town house with lots of potential. Built around 1900. Five bedrooms, two reception, full gas C.H. New roof and double glazed windows throughout. £31,250 o.n.o. Tel: (0522) 32958 after 6.00 p.m.

**DETACHED** Chalet bungalow. Four bedrooms, 30 ft lounge, separate dining room, large fitted kitchen, large bathroom with shower, cloakroom. Mostly double glazed g.l.c.h. 180 ft garden with shrubs and fruit trees, garage with drive, cul-de-sac position. Strood, Kent. £88,000. Tel: Medway 710513.

### CARS/MOTORCYCLES

**MORRIS** Minor spares. Many used and some new. For sale or exchange. Tel: (0371) 4168.

**HONDA** CG125, Y reg, no tax, MOT until September. Good condition, very economical, very reliable, top box and windscreen included. £265. Tel: Southend (0702) 554748.

**VW BEETLE** 1194 'H' reg. Good interior, £150 only. Tel: 0707 324600. Needs love and some attention.

### MISCELLANEOUS

**WANTED**, magic lanterns, glass slides etc. Contact: (0727) 53466.

**EX-SERVICE** men and women. We can supply your needs; replacement medals, blazer badges, ties, cap badges, medal mounting service, display cases for your medals. We pay fair prices for medals, badges, war souvenirs. Contact: John Richardson, 15 Overslade Crescent, Coventry. Tel: (0203) 332467.

**ENTHUSIAST** seeks R1155 receivers for private collection. Contact: A. C. Stubbings, 12 Otter Avenue, Saxby, Lincoln LN1 2HU. Tel: (0522) 702601.

**WANTED**, Schreiber 'Nova' 400mm three-drawer chest. Contact: L. Harrison. Tel: Hinkley (0455) 39243.

**WANTED**, military knives and daggers, bayonets, knuckle knives, army uniforms or any item of military interest. Good price paid. Tel: Taunton 84785 9 am to 4.45 pm.

Please write your classified advertisement in the grid below in clear block capitals (one word in each box up to a maximum of 40 words) and send it to: Caroline Ready, Topic, The General Electric Company plc, 1 Stanhope Gate, London, W1A 1EH by May 7. Insertion is not guaranteed, but every effort will be made to include your advertisement as soon as possible. GEC employees, their families and people who have retired from the company may advertise free of charge. For others the current cost is 30p per word. Please make all cheques payable to The General Electric Company plc.


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GEC Location .....

# Sword of honour



Alf Hall, left, receiving the Safety Sword of Honour from James Latto, chairman of the British Safety Council.

GEC Avionics, Borehamwood was among 14 first time winners recently chosen for the annual British Safety Council's Sword of Honour, which is presented to thirty companies with the highest standards of safety performance, by the Board of Governors of the British Safety Council.

The trophy was presented to safety officer, Alf Hall and senior shop steward, Ivor Francis at a formal luncheon at the Goldsmiths Hall.

# "Singin' in the Rain"

W & T AVERY, Bristol, was recently called in to help the producers of the spectacular "Singin' in the Rain" show, prepare for an overseas tour.

When the show recently finished its run at the Birmingham Hippodrome, preparations began to move it on to Tokyo where it opens at the Shinjuku Koma Theatre.

As part of the preparations, every item of stage equipment had to be weighed for air freight loads and costings. Avery supplied a platform scale and a crane scale to weigh such items as a 12 foot train which had to be suspended in mid air.

# Satchwell presents BAC

Satchwell Control Systems, Slough, recently presented a complete Building Automation Controller (BAC) System, comprising a hand-held console, outstation, sensors and actuators to the electrical engineering department of the South Bank Polytechnic. The department offers a building services course study option and the Satchwell equipment will be used extensively during the training of graduate engineers.

At the ceremony Malcolm Clapp, technical director of Satchwell presented Dr Frank Evans of the Polytechnic with the BAC equipment. He commented



Frank Evans, reader in building services at the South Bank Polytechnic, receiving the BAC from Malcolm Clapp.

**KENNETH** Carlisle, MP, recently visited Ruston Gas Turbines, Lincoln.

During the day he toured the company's main manufacturing site on Waterside South, where the latest technology is used in the production and assembly of Ruston's gas turbine range.

The MP also visited Ruston's New Products Division, Firth Road, which handles the design and development of new and existing engines.

Mr Carlisle said "Ruston Gas Turbines is Lincoln's largest business, it is responsible for the well being of over 2,000 families and in that respect, what is really encouraging is to see new gas turbine models coming along, showing that Ruston intends to have the technology to stay in the forefront."

In summarising he commented that "Ruston used to produce just the turbine, but now the company produces sophisticated controls in the newly formed Rustronic Division. This is a major development and potentially a provider of jobs."

# RUSTON "LINCOLN'S LARGEST BUSINESS" SAYS VISITING MP



Pictured examining a turbine blade are, from left to right: Kenneth Carlisle, Jim Nichols, Ruston's manufacturing director and Keith Parker, blade shop manager.

This is a major development and potentially a provider of jobs."

# Bolivia asks for more

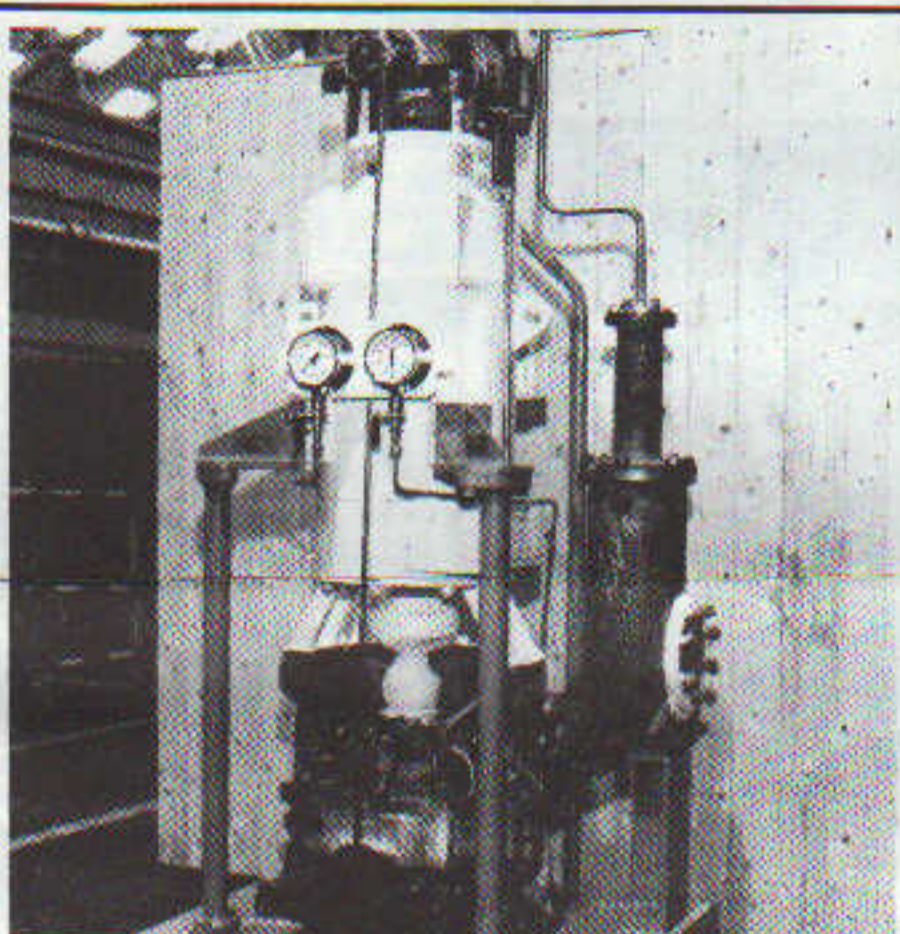
GEC Telecommunications, Coventry, has been awarded a contract by Empresa Nacional de Telecomunicaciones de Bolivia (ENTEL) valued at more than US \$2.3 million.

It is for the provision of equipment for Phases I and II of ENTEL's continuing expansion programme of the Bolivian national trunk microwave-radio network.

Most of the ENTEL national microwave network was originally supplied by GEC, as a series of full turnkey projects, located in the Andes, at up to 4,877m (16,000 ft).

Phase I of the contract is for multiplex equipment to expand the capacity of the existing national network by more than 1,500 telephone channels, distributed throughout the entire country.

Phase II covers the provision of multiplex, radio and associated equipment to provide a further expansion in capacity of the network between La Paz and Cochabamba by more than 500 telephone channels.



# KEEPING THE ROYAL YACHT AFLOAT

*DURING a recent refit, GEC Small Machines, Warley, supplied three d.c. motors to drive fire and bilge pumps aboard the Royal Yacht Britannia. Rated at 45kW, the motors were fitted to Centrex pumps.*

*Although part of the standard SD range of d.c. machines manufactured at Warley, the motors had a number of special features.*

*The photograph shows a motor, assembled to its pump.*

# New gas turbine details

RUSTON Gas Turbines, Lincoln, recently announced preliminary details of its next gas turbine model. The new engine, code-

named the RH, is being designed to provide a compact, light-weight gas turbine of 1.5MW to 2.0MW with higher efficiency and lower cost than is currently available.

The RH gas turbine — giving Ruston an additional engine at the lower end of its current range of 1 to 50MW — will be made at the company's main manufacturing facility in Lincoln, and will be available for despatch towards the end of 1988.

# Mining at Minprep

AS A leading supplier of electronic instrumentation and control systems to the mining industry, Salford Electrical Instruments, Lancashire, recently displayed a representative range of its latest developments in this specialised field at MINPREP '87 exhibition, Doncaster.

On display was its oscilloscope/multimeter, which represents an important advance in the application of traditionally high-

voltage electronic equipment in potentially dangerous environments.

Also on show, was SEI's shale/coal discriminator. This uses electronic technology to measure the amount of gamma radiation present in materials on a conveyor belt. This is used to get rid of unwanted materials such as shale or stone.

that, it was important to the building services industry that graduates were familiar with the practical aspects of control systems. He hoped that the BAC would give the course a real automation system which could be applied to control a building on the Polytechnic campus.

## Control

In thanking Mr Clapp, Dr Evans said that the BAC would be used to control the tower block at the Polytechnic, so it would certainly be doing a real job. He added that his interest in expert systems would allow the course to develop artificial intelligence applicable to building automation systems.

# HOTPOINT'S LEADER CONT...

shelves in all fridges and fridge freezers, all Hotpoint's fridges, freezers and dishwashers can be fitted with decor panels to give a kitchen the co-ordinated look. Two washing machines had new features — the 9920 now has an economy feature and the 9561 now spins at 1400 rather than 1300 revs per minute.

The new 6361 ceramic hob was on show with its four "quick star" cooking zones which give rapid, evenly spread heat across the whole of the pan, is responsive to setting changes and also looks attractive in use.

GEC ALCOHOL ADVISORY SERVICE  
Mill Road, Rugby CV21 1BD

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## Honours degree for Malcolm

**MALCOLM** Wright, a development engineer, in the Telephone Switching Power Supply Group of GEC Telecommunications, Coventry, recently obtained an honours degree from the Open University.

Malcolm, left school in 1975 and started a three year electronics degree course at Kent University, but unfortunately did not graduate. He joined GEC in 1978 as a power development assistant and has worked on a variety of System X and private venture power supplies.



Malcolm began an Open University course in 1981 and has been sponsored by the company since 1982. He benefitted from two courses which were directly transferred from the work he had completed at Kent University, and took ten courses with the Open University.

Malcolm found the relationship between work and study helped in two ways. Taking courses in electronics and related fields has improved his knowledge and helped him to become a better engineer, but also much of the work he is involved in at GEC has helped his studies.

# QUEEN MUM CALLS IN AT STANMORE

**QUEEN** Elizabeth, The Queen Mother, recently visited Marconi Defence Systems (MDS), Stanmore.

The Queen Mother was shown the company's high technology activities and gained an insight into the vital part played by its electronics systems in Britain's conventional defence capability, on land, at sea, in the air and in outer space. The company's success in the export field and its plans for continued growth, including the provision of an additional 80,000 square feet of the most up-to-date research facilities at the Warren Lane establishment, were outlined.



Her Majesty also viewed products that utilise the company's expertise in

defence electronics, but which have much wider applications.

A short tour gave Her Majesty the opportunity to meet many of the 1800-strong workforce at the site.

Pictured is the Queen Mother, talking to the captain of HMS Ark Royal via MDS' SCOT shipborne communications terminal. HMS Ark Royal was cruising off the coast of Florida, US.

From left to right with the Queen Mother are: Mike Keeble, from the Admiralty Research Establishment, David Fletcher, managing director, MDS and Don McMillian, a director of MDS.

## New models on show



A.B. Dick, Acton, recently attended the second Scottish Printing Exhibition in Glasgow, pictured above, where its range of offset and platemaking equipment went on show.

lope and card feeder attachment. Other exhibits on the stand were the Model 148 photo direct camera and the 8400 table top offset.

New units on display were the model 1400 numbering and perforating attachment, and the Townsend T-51 Swing-away second colour head.

### Appearance

Among the products featured at the exhibition was the 9002 computer forms press which had its first showing in Scotland. Its appearance on the stand generated considerable interest. The 9002 can economically print short runs of stationery, including letterheads, invoices and labels.

The Model 9840 offset machine was demonstrated with the Model 1200 enve-

## Money by the minutes

**EASAMS'** Weymouth branch recently donated £500 to the Weymouth Lions Club as sponsorship for its annual charity

swimathon. The event involved teams of six swimmers, in relay, swimming as many two length laps as possible in 55 minutes whilst sponsored to raise money for charity.

A team of Easams' swimmers joined in the event and Easams Weymouth personnel decorated the swimming baths with banners. The successful event raised several thousand pounds for charity.

**TELEVISION** coverage of the recent Americas Cup race has revolutionised the popular image of yacht racing.

Live action tv pictures, transmitted from on board the American yacht in the final, were transmitted to homes all over the world. This is the first time such a broadcasting technique has been used on a yacht.

The camera system, Yacht-Cam, was designed by Northampton television company, incorporates a dome antenna, developed and supplied by Marconi Communication Systems, Chelmsford. The camera was installed on board the 12 metre yacht, Stars and Stripes, at the request of Australian broadcaster, Channel Nine, and American cable sports channel, ESPN.

### Worldwide

A camera was mounted on the yacht's mast, facing aft, beneath the main sheet boom where it could capture the crew at work. Pictures were sent from the camera, by cable, to a microwave transmitter which was mounted on the underside of the transom. The signals were then fed into Marconi's dome antenna and transmitted up to a helicopter circling overhead. Using a second microwave transmitter on a different frequency, the signals were re-transmitted from the helicopter to the America's Cup studios of Channel Nine and ESPN

## Yacht race goes round the world



Marconi's dome antenna on the American yacht, Stars and Stripes, the winner of the final race.

in Fremantle, Western Australia, from where live tv pictures were sent, via satellite, to all major broadcasters worldwide.

Because of the great demand for microwave frequencies, broadcasters did not learn which ones they would be using until two

weeks before leaving for Fremantle. Marconi Communication Systems was, therefore, left little time to develop an antenna to operate in the 2GHz band, the company did, however, manage to supply the equipment ahead of schedule.

## The circus comes to Telecommunications

**BRIAN** Hodgkinson, a toolmaker in the toolroom at GEC Telecommunications, Coventry, has devoted three years of his spare time to making an authentic model circus — complete with big top, animals, performers, audience and vehicles. It is pictured on the right.

Brian has over 100 model vehicles, many of them valuable collectors pieces. It all began when he started collecting them. He suddenly decided to try and capture the fun and excitement of the circus.

He confesses that the model has now taken him over and becomes his life, and that he has travelled hundreds of miles in the course of building it up.

Brian has based his model on Chipperfields circus and he now has nine different circus acts that can be set up in the ring of his model. As it is still an on going project, his latest scheme is to add lighting equipment. It takes Brian two and a half hours to set up his model which he exhibits at steam rallies and other places to raise money for charity.

