

# THE INSTITUTE OF MARINE ENGINEERS

Founded 1889 and incorporated by  
Royal Charter 1933

Patron:  
Her Majesty The Queen

## Annual Report of the Council and Financial Statements

FOR THE YEAR ENDED 30 SEPTEMBER 1988



To be presented  
to members of the Institute at  
**THE ANNUAL GENERAL MEETING,**  
to be held at the  
Institute's headquarters  
The Memorial Building,  
76 Mark Lane, London EC3R 7JN  
on Thursday, 9 March 1989

## Service to the Maritime Industry since 1889

Traditionally marine engineering has been associated with ships machinery and equipment necessary for the propulsion and safety of the hull, the care and handling of cargoes and the care, comfort and safety of the passengers and crew.



Today marine engineering may be described as the combination of art, science and experience in the provision, management and maintenance of engineering systems, structures and equipment in, or on anything that operates in the marine environment. This embraces the design, construction, operation and maintenance of all types of merchant ships, warships, offshore structures and subsea vehicles. Modern marine engineering encompasses a



multiplicity of engineering disciplines and the application of information technology has had considerable impact. Computer aided engineering and management feature prominently in today's world of high marine technology.

An infrastructure of shore based industry, education establishments, government departments and classification societies employ marine engineers to deal with the necessary research, development manufacture, survey and approval of the complex systems and equipment required and the scope of the Institute's activity in recent years has been broadened to reflect the ever increasing technological demands of the maritime industries.

With almost a century of technical service to the marine industries, The Institute of Marine Engineers is dedicated to developing maritime engineering as an important force in today's world of high technology.

The Institute's founders recognised the vital need for an organisation which brought together engineers with common problems and interests and the objectives of the Institute remain those of its founders:

- To provide a forum for discussion and exchange of information.
- To uphold and advance the professional status and authority of maritime engineers.
- To facilitate the advancement of maritime engineering.
- To disseminate information through the spoken and printed word.

Membership spans the whole range of maritime engineering disciplines including marine engineering, naval architecture, offshore/subsea engineering and structural/civil/mechanical/electrical engineering with marine applications. Many engineers employed in hospitals, power stations and

manufacturing industries are also members.

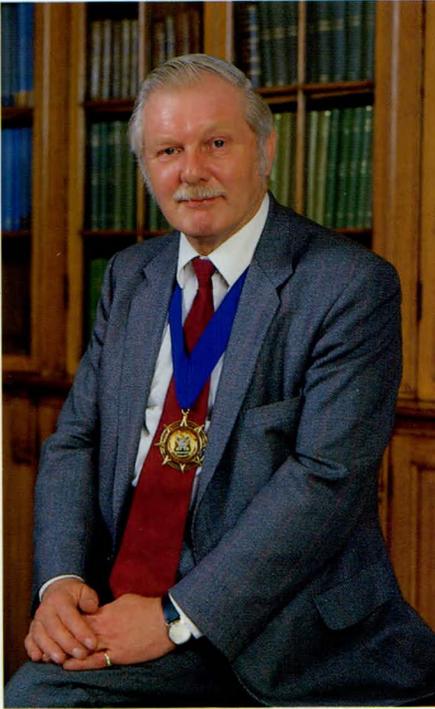
From its humble beginnings in London's East End in 1889, the Institute has grown to become an international organisation of some 16,000 members worldwide and is the largest organisation of its kind, with 36 active branches throughout the U.K. and overseas.

The Institute is a Nominated and Authorised Body of the Engineering Council and members are therefore entitled to be registered as Chartered Engineers, Incorporated Engineers or Engineering Technicians depending upon their training, experience and academic achievements. Membership thus provides the professional status which is demanded by many employers.

There are seven classes of Institute membership, full details of which may be obtained from the Manager - Professional Affairs, The Memorial Building, 76 Mark Lane, London EC3R 7JN.



## Foreword by the President



Last year saw the introduction of the Annual Report of Council in a new format. This was well received and the 1988 Annual Report and Financial Statements have been prepared in similar form.

The report covers a year in which the Institute has not only preserved its position as a pre-eminent maritime professional body worldwide, but has continued to expand, particularly outside the United Kingdom, and has been able to develop further its range of activities and services to members.

It has been a matter of particular pleasure to me that during my term of office new branches have been formed in both Nigeria and Malaysia and the groundwork has been laid for further expansion of our branch network.

Having been able to visit most branches throughout the world, I am most impressed with the hard work put in by Branch Officers and Committee members to ensure a high level of activity covering both technical and social occasions. All members who are able to will benefit greatly from participation in their local branch activities and this applies to all classes of membership, and perhaps particularly to students and those on the lower rungs of the professional ladder. I do know that all members will receive a warm welcome at branch meetings and I would encourage members everywhere to take full advantage of the opportunity to meet with, discuss and associate with fellow members.

The fall in membership which characterised recent years, and was the inevitable result of the prolonged and very deep recession in the shipping

industry worldwide, has now been reversed. As a result of the broadening of our activities to embrace the full range of maritime engineering, we are attracting to our membership people from a wide range of scientific disciplines who find themselves involved in maritime activities. At the same time our commitment to encourage young engineers in seagoing service is reflected in our continually expanding provision of grants, scholarships and prizes to those to improve their level of qualification as engineers.

Technological development proceeds apace and any young engineer who wishes to progress to a position of responsibility and influence must aim for Chartered Engineer status.

For those who have already achieved positions of significant distinction, albeit not academically qualified under current rules, we have enjoyed a major success with the provision that 5% of our Corporate membership may comprise such persons whom Council may nominate from the Associate Member class.

Great celebrations are planned for our forthcoming Centenary in 1989 and I hope as many members as possible will be able to participate in and enjoy this rare occasion.

As members we have again enjoyed great loyalty and devotion from our headquarters staff who will be particularly busy during the Centenary and we owe them all our thanks and appreciation.

I would like to send you all my personal good wishes and greetings.

A handwritten signature in blue ink that reads "A. F. Harrold". The signature is written in a cursive style and is positioned above a horizontal blue line.

A. F. Harrold

## Report of the Council 1988

From the members' point of view the most noticeable feature of the past year has been the steady rise in standards of Institute publications in both content and presentation. This was just the tip of the iceberg in the development of services to members. Improvements in the journals were provided at a lower cost, thanks to increasing provision for in-house production. An entirely new service has been inaugurated - an Employment Register designed to match the needs of members with those of potential employers.

A growing preoccupation of the Council has been the development of plans for the Institute's Centenary, which were well advanced by the end of the year. It is good to report that the Centenary appeal to provide the Royal National Lifeboat Institution with funds for one of the new Mersey Class fast, carriage-launched lifeboats got off to a promising if somewhat slow start.

The President, Mr A F Harrold, and the Secretary, Mr J E Sloggett, travelled widely during the year, carrying out extensive and fruitful tours both to advance relationships with branches and to promote recruitment in countries where it was considered that there was membership potential. Included was a visit to the Australia/New Zealand Division during the Australian Bicentenary celebrations.

The Institute continued to play its part in WEMT (West European Conference on Maritime Technology), although only one Council meeting fell within the year in question. This was held in Amsterdam, and the President and Secretary took the opportunity provided to meet officers of the Netherlands Joint Branch. WEMT continued to hold annual conferences, but none fell within the 12-month period under review.

Attendance at overseas exhibitions with a maritime connection formed an important part of promoting the Institute both with a view to recruiting new members and to publicise its services. The schedule comprised:

1987

October: Riomar '87, Rio de Janeiro  
November: Europort '87, Amsterdam

1988

May: Offshore Technology Conference, Houston  
June: Posidonia '88, Piraeus  
August: Offshore Northern Seas, Stavanger  
September: SMM '88, Hamburg

An intensive programme of learned society activities was punctuated by the regular calendar of social events. Most branches held an annual dinner and many held a dinner dance or other form of 'ladies' night' as well.

The Annual Conversazione was held at the London Hilton Hotel on 11 December 1987 and for the first time numbers dropped below 500. A much greater success was the 85th Annual Dinner on 13 March 1988, hosted by Mr Harrold entering his second term of office as President. The two guest speakers were The Hon. Mr Justice Sheen QC and Mr Jeffrey Archer, who between them provided a most lively and stimulating evening for the 924 who attended.

## Learned Society Activities

### Papers and Conferences

The Technical Papers and Conferences Committee (TPCC) met on five occasions during the year and the Marine Electrical Sub-Committee twice.

Early in the year the TPCC established a publications working group as a permanent sub-committee with devolved responsibility for the updating of existing publications and the commissioning of new titles. Following a review of existing publications, priority was given to the updating of "The Running and Maintenance of Marine Machinery" and Parts 2, 5, 9, 17 and 18 of "Marine Engineering Practice". The publications working group announced that they would be pleased to hear from members interested in submitting manuscripts for possible publication by the Institute. In view of the Institute's growing membership in the offshore industry, offshore topics would be particularly welcome. At the year end, six new publications were being considered.

The Joint Offshore Group Committee (JOGC) met on seven occasions and a number of technical papers and two offshore conferences were planned for the 1988/89 and 1989/90 sessions.

The 1987/88 programme of meetings and conferences included sixteen evening meetings, one afternoon seminar and two international conferences at which a total of 81 technical papers were read and discussed as well as symposia in Singapore and Sydney, where a further 51 papers were presented. Details will be found on pages 17 to 19.

The two conferences held at Institute headquarters were most successful both in terms of numbers of delegates and quality of papers. The first, entitled "Polymers in a Marine Environment", was a three-day international conference organised jointly with the Polymer Physics Group of the Institute of Physics and the Royal Society of Chemistry. The second, also a three-day international conference, was entitled "IMAS 88 - The Design and Development of Passenger Ships". The proceedings of both these conferences were subsequently published.

## Information Services

The Institute's information services were further developed during the year. The investment in computer equipment and staff training in the previous year started to bear fruit and it is pleasing to record that for the second consecutive year the division's revenue increased while expenditure went down.

From January 1988 the Transactions were published in a new format as a bi-monthly journal with each issue containing three to five papers. Besides improved presentation this also rationalised distribution procedures and led to lower postage costs. Camera ready copy for the Transactions was produced entirely on Apple desktop publishing equipment and as a consequence substantial savings on production costs were achieved. Members are entitled to receive copies of the Institute's current Transactions free on request. (All Transactions of papers presented during the 1987/88 programme are now available.)

Conference preprints and proceedings in the past year continued to be prepared on the desktop publishing equipment. Readers of the Bulletin will have noticed the efforts being made to improve style and readability. It is now set entirely in-house, transferred to a floppy disk and sent to a bureau for output on a phototypesetter. In this way high quality output is still achieved.

The profile of the MER has been raised to make it the most informative of marine engineering journals. MER regularly contained in excess of 40 pages of editorial devoted to both shipping and offshore topics. This plus the improved response to reader enquiries allowed MER to increase its income from advertising by 25% over the previous year. Most of the editorial pages for MER are now prepared on desktop publishing equipment.

In Summer 1988 a catalogue containing descriptions of all the Institute's publications was prepared and quickly showed signs of having stimulated sales.

## Marine Information Centre

The Institute's computerised retrieval system became fully operational, making available to members an immediate response to their enquiries, whether received by fax, telex, telephone or from a visit to the library. During the year some 4000 enquiries were answered and there were 2000 visitors to the library. An events calendar was launched by MIC staff, listing all forthcoming conferences and exhibitions concerned with the marine sector. At £30 per year for 12 issues this publication has been designed for those wishing to keep abreast of technical developments or for use in planning marketing strategies.

## Divisions and Branches

### Australia/New Zealand Division

January 1988 saw the biennial tour of the Australia/New Zealand Division, timed as usual to coincide with the Divisional Council Meeting and a Maritime Symposium; these events had been postponed from the usual November date to that of the Australian Bicentenary celebrations. The President and Secretary each read a paper at the Symposium, which was organised by the Sydney Branch on behalf of a group of other organisations.

Both headquarters and the Division made a considerable contribution to the Bicentenary. A berth had been sponsored on the delivery voyage of the sail training ship Young Endeavour, Britain's official gift to Australia, and as a result the President, Secretary and representatives of the Division were invited to the handover ceremony, which took place in the presence of The Prince and Princess of Wales.

A Bicentenary Silver Medal was inaugurated by the Institute, to be awarded twice a year to the most outstanding marine engineering officer in training in the Royal Australian Navy, and the first presentation was made by the President to SL S R Muller, RAN of HMAS Cerberus. The second award was presented to SL M R Robinson RAN, also of HMAS Cerberus, by Mr A L Budd, President, Australia/New Zealand Division.

The Sydney Branch published an outstanding book entitled "Workhorses in Australian Waters", which was added to the Institute's book list.

All the branches in the Division were included in the itinerary of the tour made by the President and Secretary.

### Branches

The Institute continued to expand its overseas activities with the formation of a joint branch with RINA in Malaysia, the inaugural meeting of which took place at the University of Technology, Kuala Lumpur, in February 1988. In attendance were the IMarE President, Mr A F Harrold, and the Deputy Minister of Transport representing the Malaysian Government, who welcomed the formation of the joint branch. It is pleasing to report that the branch is progressing well.

The Nigeria Branch had been in operation for just over twelve months by the year-end and a high level of activity was achieved.

In late 1987 the Secretary undertook a two-week tour of the Far East. In Hong Kong he attended an Extraordinary General Meeting of the joint branch, the purpose of which was to consider setting up a body which would produce a register of marine

technologists - one of a series of moves designed to secure the future of IMarE members there after Hong Kong comes under Chinese rule in 1997.

In Singapore the Secretary attended the seminar, The Economic Ship, of which the Singapore Branch were joint organisers, and attended their Annual Dinner Dance. He briefly called at Kuala Lumpur to meet the Committee of the new Malaysia Joint Branch to discuss plans for its inauguration. He also visited Indonesia and The Philippines, in each making contacts which it was hoped would be of value to the Institute.

At the end of April 1988 the President departed again for the Far East. His first port of call was the Hong Kong Joint Branch where he addressed a luncheon given by the joint branch and the Hong Kong Ship Owners Association. He also attended a joint branch Council meeting.

Accompanied by a representative of the joint branch, the President then spent two days in Shanghai, the principal object of which was to foster good relations with the Shanghai Society of Naval Architects and Marine Engineers (Shanghai SNAME) on behalf of the Hong Kong Joint Branch.

The President then went on to Colombo, where a dinner was held in his honour by the Sri Lanka Branch. His final destination on that tour was the United Arab Emirates Branch and was entertained to dinner by the branch committee. Useful discussions were held on the branch and its activities.

The Institute's presence at the Posidonia exhibition in Piraeus in June 1988 provided the President with an opportunity to make contact with the Greek Joint Branch. He then went on to Malta, where he delivered a paper to a meeting of the Malta Joint Branch and attended their Annual Dinner Dance.

Following attendance at the Offshore Technology Conference and Exhibition in Houston in May 1988, the Secretary visited Ottawa for talks with the Executive Director of The Canadian Institute of Marine Engineering. The Institute has close links with this independent institution, including provision for its members to become Overseas Affiliate members of this Institute.

The annual meeting of Branch Honorary Officers, chaired by the President, was held in March 1988 at headquarters, and all the UK branches were represented. Also in attendance were representatives from Cork, Greece, Malta, The Netherlands and Hong Kong. Among the subjects discussed were professional reviews for Chartered Engineer and Technician Engineer status, the Institute's Centenary, branch funding, branch technical meetings, branch representation on Council, and branch

programmes. A presentation was given to Honorary Officers on behalf of the IMarE Guild of Benevolence.

Reports from the branches will be found on pages 23 to 30.

## Membership

The Membership Committee met regularly throughout the year to assess applications received for election and transfer to the various classes of membership. Extra meetings were required to deal with the influx of applications prior to the introduction of the Professional Review in January 1988.

As the year progressed the number of applicants required to undertake the Professional Review rose steadily, increasing considerably the work of the Committee and the Secretariat, and the activities of the branch members in this regard are very much appreciated. During the year further steps were taken towards the recognition of U K qualifications in Europe by the opening of the Group 1 Register of the European Federation of National Engineering Associations (FEANI). This opened the way for Chartered Engineers to apply for registration at this level with the British National Committee of FEANI through the Institute, and requests for application forms should be made to the Membership Officer.

At the same time the British National Committee announced that it would receive for transmission to FEANI headquarters in Paris, applications from Chartered Engineers for the title European Engineer. A number of Fellows and Members have already been awarded the use of the title, and applications should be made through the Membership Officer. Members wishing to use the title will initially be required to register with Group 1 before applying for registration as a European Engineer.

The Institute also took an active part in the deliberations on the proposed European General Directive covering the mutual recognition of professional qualifications throughout the European Community member states. The Institute is strongly supporting a U K proposal that there should be a separate Directive for engineers.

During the year over 800 applications for election and transfer were considered by the Membership Committee, sufficient to ensure that the total number of members underwent little change in the year. In fact this year the Institute has been able, for the first time, to extract full details of membership from the computer records. Suspicions that the numbers published last year were lower than actual numbers have been confirmed, and the total membership of 15,928 at 30 September 1988 represents a

substantial increase over the figures quoted last year.

## Employment Register

The Employment Register developed steadily over its first year, building up a database linking employers with those seeking employment. Enquiries and registrations built up well, with a number of members negotiating with prospective employers.

## Subscriptions.

To mark the Centenary of the Institute, Council decided that students following full time courses with a marine technology application leading to a CEng or an IEng Stage I registration with the Engineering Council would be given membership free of charge for the duration of the course. It was also decided that for 1988/89 the subscription rates and entrance fees would be maintained at the levels set for the previous year. The subscription rate structure based on class, length of membership, age and country of residence would also be retained.

The Institute continued to collect Engineering Council fees on their behalf, and to show these as a separate item on the subscription notice to members on the Engineering Council Register. Full details of IMarE subscription rates and Engineering Council fees for 1988/89 will be found on page 22.

## Education and Training

The Professional Affairs and Education Committee (PAEC) met on five occasions during the year, and responded to various papers and discussion documents from the Engineering Council. Those considered included:-

The Restructuring of Engineering Higher Education

The EC Response to the National Council of Vocational Qualifications

The Generalist (Integrated) Engineer Degree

Engineering Technician Areas of Employment

University Grants Committee (Research Selectivity Exercise)

Members of the Committee and the Secretariat continued to represent the Institute on committees involving Continuing Education and Training and attended conferences on this subject.

On the recommendation of the PAEC, Council agreed that students residing outside the UK and attending overseas educational establishments to study for an honours degree, or a qualification of a similar level, involving maritime

engineering, and accredited by the Institute for registration as a Chartered Engineer with the Engineering Council, would be eligible to apply for a supplementary grant. A scholarship of £800 p.a. funded by the Institute was introduced at the Hong Kong University for courses meeting the above requirements.

During the year the IMarE/RINA Joint Assessment Panel accredited the B.Eng Honours Degree in Mechanical Engineering with Marine Engineering and Offshore option, offered by the University of Surrey, and part accredited the Nautical Science, Fisheries Science and Maritime Science degree qualifications submitted by Plymouth Polytechnic. The Panel also undertook accreditation visits to the City of Bath College of Further Education, and the Universities of Glasgow, Newcastle-upon-Tyne, Southampton and Strathclyde.

In addition the IMarE/RINA Joint Assessment Panel and the Professional Affairs and Education Committee accredited the Department of Transport Extra First Class Certificate of Competency (Marine Engineer Officer) for registration at Stage 1 of the Engineering Council Chartered Engineer Register. This accreditation accepted the Extra First Class Certificate as the equivalent of a B.Eng (Honours) degree awarded by a U.K. university or polytechnic. Unlike such a degree, this qualification indicates not only the academic but also the training and professional experience required by the By-Laws for election to Corporate membership.

In the course of the year the PAEC accredited the Management Graduation scheme submitted by the Chung Wah Shipbuilding and Engineering Co. Ltd. of Hong Kong for registration at Stage 2 of the Engineering Council Chartered Engineer Register. The Committee also accredited the Royal Navy Weapon Training Applications Course and the Marine Engineering Applications Course submitted by the Royal Naval Engineering College, Manadon, for the Engineering Council Chartered Engineer Register.

Reports were awaited by the Committee from Working Parties set up to assess the following courses for accreditation:- Shell Expro Technician Training Scheme, Aberdeen Technical College. Bachelor of Applied Science (Marine Engineering) Degree, Australian Maritime College, Launceston, Tasmania. HND in Mechanical, Marine and Aeronautical Engineering, Hong Kong Polytechnic. HND (Engineering) Maritime Technology, Southampton Institute of Higher Education. Bachelor of Engineering (Honours) Engineering Degree, R.N.E.C. Manadon.

Members seeking Corporate membership and Chartered Engineer Registration through the Mature Candidate Route continued to receive every encouragement to pursue this approach. The Institute also continued to provide support to members suffering financial hardship whilst studying for accredited honours degrees or qualifications of a similar level in maritime engineering through supplementary grants and scholarships. The latter were awarded by the Institute to students at the Universities of Newcastle-upon-Tyne and Surrey, and Liverpool Polytechnic. The Institute continued to administer the Lloyd's Register of Shipping Scholarship in addition to maintaining the Institute's awards and prizes. Supplementary grants totaling £22,000 were awarded. Details are given on page 9.

## The Engineering Council

Dr Kenneth Miller retired as Director General of the Engineering Council in July 1988 and his successor, Denis E Filer, took up his new appointment in August 1988.

In the light of Privy Council approval, the Engineering Council's Register was amended to change the title of Technician Engineer (TEng) to Incorporated Engineer (IEng). However, members of the Institute who are registered as Technician Engineers will continue to hold this title until the Institute's Charter and By-Laws are amended and approved by the Privy Council. The resultant confusion is regretted, but is not of the Institute's making.

Two meetings took place of the Engineering Profession Forum organised by the Engineering Council and attended by most of the engineering institutions; this Institute was represented on each occasion by the President and Secretary.

The Engineering Council Executive Group Committee 5 (EGC5) met on four occasions during the year. Institute representation on EGC5 was increased by one Technician Engineer as a consequence of a member institute failing to apply for renewal of appointment as a Nominated Body and subsequent withdrawal from the Engineering Council.

At the second EGC5 meeting, Dr J Cowley, Immediate Past President of the Institute and Chairman of the EGC5 since its inception in 1983, retired from the Committee. Rear Admiral M A Vallis (Deputy President) concurrently became an Institute member of EGC5 and Chairman of the Institute's Standing Committee on Engineering Council Affairs.

A wide range of subject matter was discussed by EGC5 during the year

including Continuing Education and Training, alternative routes to registration for Engineering Technicians, and proposals for an integrated degree programme to encourage development of broader courses for engineering students. Consideration was given to the development of an Engineering Council pro-forma training log book to be issued to students when they commenced engineering courses.

The fourth Engineering Assembly was held at Queens University, Belfast. There was lively debate on the serious shortage of Incorporated Engineers and Engineering Technicians and the need for the Engineering Council to adopt a vigorous campaign to recruit more engineers and technicians. Other motions carried by the Assembly included the perceived need for a mechanism whereby elected members of the Assembly could be represented on the Engineering Council and the introduction of statutory licensing of engineers in the UK. In response to this latter debate the Engineering Council indicated that its policy was for voluntary registration which, it was thought, would be effective if employers demanded it.

## Centenary

The Centenary Committee was active in preparation for the Institute's Centenary in 1989. The headquarter's programme was finalized with appropriate funding being approved by the Council. Branches, both UK and Overseas, were also busy organising their own activities including a number of very prestigious events.

## Joint Liaison (IMarE/RINA)

Three further meetings of the Liaison Committee took place to explore the continued collaboration between the two bodies. Discussions centred on the Joint Offshore Group, designatory letters for Associate Members, the Engineering Council, accreditation of academic courses, change of title for Technician Engineers, Joint Branches, and Professional Reviews.

## Social Events

In addition to the *Conversazione* and the Annual Dinner, the Social Events Committee planned two golf meetings. The Autumn Golf Meeting was held in October 1987, at the Stoke Poges Golf Club, Stoke Poges, Bucks. It was attended by 20 members, and was a most enjoyable day. The Spring Golf Meeting was held at the Worplesdon Golf Club, Woking, Surrey, in May, 1988. It was attended by 36 members of the Institute, and once again, it proved to be a mixture of a good day's golf, and a pleasant social gathering.

## Finance

The surplus on the Consolidated Revenue Account is £355,257 after taking into account the excess of expenditure over income from members of £765,455, an increase of 29.5% over the previous year. The per capita cost is now £48.14.

The Consolidated Appropriations Account shows that £83,087 has been transferred out of the surplus to the Property Maintenance Fund (Note 9a) in order to maintain the ratio with the Anticipated Expenditure Fund, which obtains its income from Tenants and investments. The remainder of the surplus has gone to the General Fund.

The Consolidated Balance Sheet reflects for the first time the inclusion of the headquarter's building at its professional valuation which was £26,300,000 at 30 September 1988 (Note 5). In future years it will be necessary to amortise the property over the remainder of the lease, which expires in 2057. This will result in a charge to the Revenue Account commencing in the year ending 30 September 1989.

Last year the attention of members was drawn to the effect of a severe setback in stock markets. While the London stock market is still at about the same level as it was after the setback, the Institute's portfolio stood at £146,633 above cost on the 30 September 1988 which bears out the policy of the Council of pursuing long term capital improvement rather than immediate income. Nevertheless, the income from investments was £178,665 and profit on sales of investments and some fixed assets was £17,039.

## Council Advisory Groups

### Overseas Affairs

The Overseas Affairs Committee, set up as a specialist group of the Council Advisory Committee in 1987 to monitor the Institute's international interests, met on two occasions during the year. Activities in a number of countries were reviewed and the promotion of more overseas branches was considered.

### Office Bearers Affairs

Nominations for office holders of the Institute were approved and representatives on external organisations appointed. Corresponding members were appointed for the first time for West Germany and Calgary, Canada.

### By-Laws

An Order of Council was granted by the Privy Council in September 1988, allowing the alterations and amendments to the By-Laws of the Institute, approved by the

membership at the Annual General Meeting in March 1988. This enabled the Institute to admit to the class of Members those Associate Members not qualified for Chartered Engineer status, but who had achieved high status within the maritime profession, provided that the total Members elected under the new By-Law 5 (2) and currently on the Roll did not exceed more than 5% of the total number of Corporate members of the Institute.

To reflect the change in title from Technician Engineer to Incorporated Engineer made by the Engineering Council, further alterations and amendments to the Royal Charter and By-Laws of the Institute were approved by the Council in September 1988 for consideration by the membership at an Extraordinary General Meeting to be held in November 1988.

### Memorial Building

The Building Maintenance Committee continued to keep a watchful eye on the operation and management of the Memorial Building through the services provided by the Institute's managing agents. This included the upkeep of the tenanted area and also advice on maintenance of that part occupied by the Institute. It was the Committee's endeavour to achieve high standards coupled with value for money.

### City Conference Centre

The major event of 1988 was the refurbishment of the Conference Centre, which took place during August. A modern blue decor incorporating the Institute's badge greatly enhanced the look of the first floor, while improvements were made in the lecture theatre to both the lighting and seating. The Centre is now in an excellent position to consolidate its position as one of London's leading small conference venues. This is reflected in a growing client list which includes many blue-chip companies.

The high volume of business achieved in recent years continued as the Conference Centre played host to nearly 300 different conferences, seminars or product launches and served well over 20,000 meals to delegates over the twelve months in question. The administration of the City Conference Centre was computerised, making it possible to obtain information on the availability of rooms for several years ahead, as well as conference details, in a matter of seconds at the touch of a button.

### Honours, Awards and Prizes

#### New Years Honours

Capt G R Laslett RN (Member) - OBE

#### Birthdays Honours

Capt T M O'Brien RNZN (Fellow) - OBE  
Lt Cdr J W Hicks RN (Member) - MBE

#### Institute Awards and Prizes

##### 1988 Silver Jubilee Medal

Awarded to Lieutenant SA French RN, the most outstanding Marine Engineer Officer in training at the Royal Naval Engineering College, Manadon.

##### 1988 Bicentenary Silver Medal

Awarded biannually to the most outstanding Marine Engineering Officer in training in the Royal Australian Navy.  
Sub Lieutenant S R Muller RAN  
Sub Lieutenant M R Robinson RAN

##### 1987/88 Denny Gold Medal

To P Herring (Fellow) for his paper entitled "Sequential Turbocharging of the MTU 1163 Engine" read at the Institute on 1 March 1988

##### 1987/88 Silver Medal

To Professor H Nilsson and S Gummesson for their paper entitled "Air-independent Stirling-engine-powered Energy Supply System for Underwater Applications" read at the Institute on 16 February 1988

##### 1987/88 Stanley Gray Award

Not awarded. The value of this award is up to £4,500

##### 1987/88 and 1988/89 The Herbert Akroyd Stewart Award

No paper from the 1987/88 session identified for this award

##### 1987/88 The Percy Jackson Diesel Engine Award

No paper from the 1987/88 session identified for this award

##### 1987 W W Marriner Extra First Class Certificate of Competency Award

R A Carpenter

##### 1987 W.W. Marriner Memorial Prize - Class 2 Certificate of Competency

S H Graves

##### 1987 William Theodore Barker Award - Class 1 Certificate of Competency

D J Storey

##### 1987 Scholarship Awards

Liverpool Polytechnic J F Riding  
Miss N F Connolly  
University of Surrey Miss C M Fox

##### 1987 Book Awards

Liverpool Polytechnic O G Kim  
University of Newcastle-upon-Tyne E Hill  
University of Surrey Y J Wijnands

##### 1987 Marine Engineer Cadet Prizes

College of Maritime Studies, Warsash A DeCosta

Plymouth Polytechnic D Carlyle  
South Merseyside College G K Shore  
South Tyneside College P W Little

Other prizes awarded are detailed in Branch Reports.

#### Supplementary Grants

##### Degree Courses

Liverpool Polytechnic	14
University of Newcastle-upon-Tyne	19
Strathclyde University	1
University College Swansea	1
Brunel University	1
Ulster University	1
Heriot-Watt University	2
Teeside Polytechnic	1

##### Extra First Class Certificate of Competency Courses

South Tyneside College	6
Glasgow College of Nautical Studies	2

##### Engineering Council Part 2 Examination

Southampton Institute of Higher Education 6

##### Post Graduate Studies

University of Durham Business School	1
University of Michigan	1
Middlesex Polytechnic	1

**A.F. Harrold** (President)

**J.E. Sloggett** (Secretary)

## Financial Statements for the year ended 30 September 1988

### Consolidated Revenue Account

		1988	198
	£	£	£
<b>Income</b>			
Members' subscriptions, entrance fees and registration fees	577,064		614,162
Sundry	<u>2,242</u>		<u>633</u>
		<u>£579,306</u>	<u>£614,795</u>
<b>Less: costs of services provided for members</b>			
<b>Direct expenditure on employer's staff costs and supplies:</b>			
<b>Technical services:</b>			
Publications	274,908		310,662
Marine Information Centre	67,125		65,945
Sessions and Conferences	20,070		38,893
Education and Training	<u>37,688</u>		<u>38,953</u>
	399,791		454,453
Educational Grants and Prizes	36,667		32,193
Divisions and Branches	56,128		56,472
Development including Public Relations	<u>51,962</u>		<u>38,331</u>
		544,548	581,444
<b>Indirect expenditure on employer's staff costs and supplies:</b>			
Membership and maintenance of register	101,979		76,137
Council and Committees	<u>76,992</u>		<u>50,656</u>
		178,971	126,793
<b>Administration:</b>			
Employer's staff costs	182,618		181,349
Overheads including occupancy costs	<u>533,520</u>		<u>390,552</u>
	716,138		571,901
<b>Less: allocated to other income - see below</b>	<u>94,896</u>		<u>74,346</u>
		621,242	497,555
		<u>£1,344,761</u>	<u>£1,205,793</u>
<b>Excess of expenditure over income from members</b>		<u>£765,455</u>	<u>£591,000</u>
	Note		
<b>Investment income:</b>			
Property		1,007,506	997,909
Dividends and interest	2	<u>178,665</u>	<u>152,454</u>
		1,186,171	1,150,363
<b>Books and technical papers sold to non-members</b>		32,325	15,106
<b>Social Events</b>		295	306
<b>Adjustments arising from foreign exchange fluctuations</b>		<u>(3,183)</u>	<u>(837)</u>
		1,215,608	1,164,938
<b>Less: administration costs - see above</b>		<u>94,896</u>	<u>74,346</u>
		1,120,712	1,090,592
<b>Surplus for the year carried forward to Appropriations Account</b>	3	<u>£355,257</u>	<u>£499,592</u>

## Consolidated Appropriations Account

	1988	1987
	£	£
Surplus brought forward from Revenue Account	355,257	499,590
Profit on sales of Investments and Fixed Assets	17,039	32,475
	<u>372,296</u>	<u>532,065</u>
Transfer to provision for property maintenance (see Note 9a page 14)	83,087	28,173
Surplus for the year after appropriations	289,209	503,892
Balance on General Fund at 1 October 1987	4,274,207	3,770,315
Balance on General Fund at 30 September 1988	<u>£4,563,416</u>	<u>£4,274,207</u>

## Consolidated Balance Sheet

		1988		1987	
	Notes	£	£	£	£
<b>Fixed assets</b>					
Tangible assets	5	26,522,988			2,386,930
Investments	6	2,041,405			2,070,950
			<u>28,564,393</u>		<u>4,457,880</u>
<b>Current assets</b>	7	642,524		490,179	
<b>Creditors:</b> Amounts falling due within one year	8	<u>460,167</u>		<u>364,745</u>	
<b>Net current assets</b>			<u>182,357</u>		<u>125,434</u>
<b>Total assets less current liabilities</b>			<u>28,746,750</u>		<u>4,583,314</u>
<b>Provisions for deferred liabilities</b>	9 and 10		<u>318,784</u>		<u>309,107</u>
			<u>£28,427,966</u>		<u>£4,274,207</u>
<b>Represented by:</b>					
<b>General Fund</b>			4,563,416		4,274,207
<b>Revaluation Reserve</b>	5		23,864,550		-
			<u>£28,427,966</u>		<u>£4,274,207</u>

## Balance Sheet

<b>Fixed assets</b>					
Tangible assets	5		26,310,866		2,194,170
Investments	6		2,041,405		2,070,950
Investment in subsidiary			<u>30,000</u>		<u>30,000</u>
			<u>28,382,271</u>		<u>4,295,120</u>
<b>Current assets</b>	7	696,144		524,494	
<b>Creditors:</b> Amounts falling due within one year	8	<u>335,875</u>		<u>240,510</u>	
<b>Net current assets</b>			<u>360,269</u>		<u>283,984</u>
<b>Total assets less current liabilities</b>			<u>28,742,540</u>		<u>4,579,104</u>
<b>Provisions for deferred liabilities</b>	9 and 10		<u>318,784</u>		<u>309,107</u>
			<u>£28,423,756</u>		<u>£4,269,997</u>
<b>Represented by:</b>					
<b>General Fund</b>			4,559,206		4,269,997
<b>Revaluation Reserve</b>	5		23,864,550		-
			<u>£28,423,756</u>		<u>£4,269,997</u>

A.F.Harrold (President)

J. McNaught (Honorary Treasurer)

## Notes to the Financial Statements

### 1 Accounting policies

#### a Basis of accounting

The financial statements are prepared under the historical cost convention as modified by the revaluation of the leasehold property.

#### b Basis of consolidation

The financial statements incorporate the results of the wholly owned operating subsidiary for the year to 30 September 1988.

#### c Format of financial statements

The format of the Balance Sheet complies with the Companies Act 1985 as required by the Institute's By-Laws. The format of the Revenue Account does not, as in the opinion of the Council the required format is inappropriate to a charitable Institute. As permitted by Section 228(7) of the Companies Act, 1985 a separate Revenue Account of the Institute is not presented as part of the financial statements.

#### d Amortisation and depreciation

No amortisation has been provided on the leasehold property which was revalued at 30 September 1988. Equipment is depreciated on a straight line basis, at annual rates of 15% to 25%, to write off the cost of assets over their estimated useful lives.

#### e Stocks

Book stock is stated on the basis of a base stock value of £20,000. All other stocks are stated at the lower of cost and net realisable value.

#### f Foreign currency

Bank balances held abroad are translated at the rates of exchange ruling on 30 September 1988. All gains or losses arising on translation have been dealt with in the Revenue Account.

#### g Subscription income

Subscription income is included in the financial statements on a receipts basis adjusted for subscriptions received in advance. No credit is taken for arrears of subscriptions.

#### h Investment income

Dividends and interest are included in the financial statements on a receipts basis.

#### i Rental and service charge income

Rental and service charge income is included in the financial statements on a receivable basis.

#### j Leasing

Rentals paid under operating leases are charged to the Revenue Account on an accruals basis.

#### l Taxation

The Institute is a registered charity and is not subject to taxation. Its subsidiaries are subject to Corporation Tax.

### 2 Dividends and interest

	1988	1987
	£	£
Income from fixed assets investments	145,586	105,420
Other interest received	33,079	47,034
	<u>£178,665</u>	<u>£152,454</u>

### 3 Surplus for the year is stated after charging

Depreciation	£74,038	£59,219
Auditor's remuneration	£15,000	£15,000

The members of the Council do not receive any remuneration from the Group.

The surplus dealt with in the financial statements of the Institute amounted to £289,209 (1987:£503,892)

### 4 Staff costs

Wages and salaries	632,130	546,991
Social security costs	47,699	42,501
Other pension costs	77,902	78,560
	<u>£757,731</u>	<u>£668,052</u>

The average number of employees during the year was made up as follows:

	Number	Number
Publications	15	12
Administration	14	14
Other direct and indirect costs	10	10
Property	11	12
	<u>50</u>	<u>48</u>

## 5 Tangible Fixed Assets

### The Group

#### Cost or Valuation

	Long Leasehold Property £	Equipment £	Total £
At 1 October 1987	2,177,364	462,079	2,639,443
Additions	258,086	88,882	346,968
Disposals	-	(5,690)	(5,690)
Revaluation surplus	23,864,550	-	23,864,550
At 30 September 1988	<u>£26,300,000</u>	<u>£545,271</u>	<u>£26,845,271</u>
Accumulated depreciation:			
At 1 October 1987	-	252,513	252,513
Charge for the year	-	74,038	74,038
Disposals	-	(4,268)	(4,268)
At 30 September 1988	-	<u>£322,283</u>	<u>£322,283</u>
Net book value:			
At 30 September 1988	<u>£26,300,000</u>	<u>£222,988</u>	<u>£26,522,988</u>
At 30 September 1987	<u>£2,177,364</u>	<u>£209,566</u>	<u>£2,386,930</u>

### The Institute

#### Cost or Valuation

At 1 October 1987	2,177,364	125,160	2,302,524
Additions	258,086	-	258,086
Revaluation surplus	23,864,550	-	23,864,550
At 30 September 1988	<u>£26,300,000</u>	<u>£125,160</u>	<u>£26,425,160</u>
Accumulated depreciation:			
At 1 October 1987	-	108,354	108,354
Charge for the year	-	5,940	5,940
At 30 September 1988	-	<u>£114,294</u>	<u>£114,294</u>
Net book value:			
At 30 September 1988	<u>£26,300,000</u>	<u>£10,866</u>	<u>£26,310,866</u>
At 30 September 1987	<u>£2,177,364</u>	<u>£16,806</u>	<u>£2,194,170</u>

The Institute's long leasehold property has been valued by Baker Harris Saunders Ltd (Surveyors) of Saddlers House, Gutter Lane, Cheapside, London EC2V 6HS, as at 30 September 1988 on an open market value for existing use basis.

The surplus arising on the above mentioned valuation has been upheld in the balance sheet as a revaluation reserve.

## 6 Investments

#### Cost

At 1 October 1987	2,070,950
Additions	254,252
Disposals	(283,797)
At 30 September 1988	<u>£2,041,405</u>

The above investments consist of Gilt Edged Stocks and Equities, which are listed on a recognised Stock Exchange, and unit trusts. The value of the listed investments at 30 September 1988 (using middle market prices) was £2,188,038 (1987: £2,542,720), being £146,633 (1987: £471,770) above cost.

**7 Current Assets**

	The Group		The Institute	
	1988	1987	1988	1987
	£	£	£	£
Stocks (see below)	44,252	40,514	-	-
Debtors	281,526	196,689	163,242	111,891
Prepayments	51,918	84,171	43,687	55,930
Cash at Bank, in hand and with agents in the United Kingdom	209,562	119,198	198,566	102,263
Cash at Bank held overseas	55,266	49,607	55,266	49,607
Amount due from subsidiary company	-	-	235,383	204,803
	<u>£642,524</u>	<u>£490,179</u>	<u>£696,144</u>	<u>£ 524,494</u>
Stocks (see Note 1(e), page 12)				
Stock of books and publications	20,000	20,000		
Stock of paper for journals	17,063	12,958		
Sundry consumables	7,189	7,556		
	<u>£44,252</u>	<u>£40,514</u>		

**8 Creditors: amounts falling due within one year**

	The Group		The Institute	
	1988	1987	1988	1987
	£	£	£	£
Creditors	276,540	190,437	159,717	72,265
Rents and Service Charges in advance	122,719	137,115	122,719	137,115
Subscriptions in advance	22,295	3,455	22,295	3,455
Accruals	38,613	33,738	31,144	27,675
	<u>£460,167</u>	<u>£364,745</u>	<u>£335,875</u>	<u>£240,510</u>

**9 Provisions for deferred liabilities**

	The Group and The Institute	
	1988	1987
	£	£
a Provision for property maintenance		
At 1 October 1987	309,107	290,520
Transfer from Appropriation Account	83,087	28,173
	<u>392,194</u>	<u>318,693</u>
Less: Expenditure incurred during the year	73,410	9,586
At 30 September 1988	<u>£318,784</u>	<u>£309,107</u>
b Property Maintenance Fund		
At 1 October 1987	583,384	470,737
Amounts receivable from tenants	82,222	81,809
Interest received	51,659	48,362
	<u>717,265</u>	<u>600,908</u>
Less: Expenditure incurred during the year	134,255	17,524
At 30 September 1988	<u>£583,010</u>	<u>£583,384</u>

The fund arises from the requirement for tenants to pay an annual sum towards anticipated expenditure on those parts of the leasehold property in common with the Institute. See also note 10

## 10 Assets held in respect of Property Maintenance Fund

	1988	1987
	£	£
Investments at cost	377,004	512,060
Cash on deposit	206,006	71,324
	<u>£583,010</u>	<u>£583,384</u>

The investments consist of Gilt-Edged Stocks, all listed on a recognised Stock Exchange. The value of the listed investments at 30 September 1988 (using middle market prices) was £377,187 (1987: £503,263), being £183 above (1987: £8,797 below) cost.

## 11 Capital commitments

	1988	1987
Expenditure contracted for but not provided in the Financial Statements.	-	-
Expenditure authorised but not contracted for	<u>£47,400</u>	<u>£43,200</u>

## 12 Leasing Commitments

The minimum operating lease payments to which the group is committed during the next year are as follows:

Leases which expire:	Land & Buildings	Others
within one year	-	-
in the second to fifth years inclusive	-	13,634
after five years	35,222	-
	<u>£35,222</u>	<u>£13,634</u>

## 13 Pensions

The Institute's contributions to the Pension Scheme are paid into a separate fund administered on behalf of the trustees by Provident Life Association. The Institute's contribution levels are in accordance with the recommendations of independent actuaries, following tri-ennial valuations of the scheme. The Pension Fund was solvent when last valued on 2 February 1987.

## 14 Subsidiary companies

The wholly owned subsidiary companies, which are both registered in England, are:

Marine Management (Holdings) Limited - engaged in activities largely related to the needs of the marine engineer, and Marine Activities Management Limited - dormant.

## 15 Approval of Financial Statements

These Financial Statements were approved by Council on 13 December 1988.

## 16 Awards Funds

The Institute manages as Trustee a number of Awards Funds as indicated below:

Fund	Income Accounts			Balance 30.9.88	Capital Balances	Total Balances
	Balance 1.10.87	Income	Expenditure			
	£	£	£	£	£	£
Herbert Ackroyd Stuart	1,535	228	-	1,763	699	2,462
W. W. Marriner	3,857	629	450	4,036	4,163	8,199
Denny Gold Medal	1,002	247	-	1,249	734	1,983
Frank Roberts	194	29	-	223	221	444
Percy Jackson Diesel Engine	1,561	206	-	1,767	954	2,721
William Theodore Barker	8,753	1,065	250	9,568	3,000	12,568
Stanley W. H. Gray	68,887	10,824	-	79,711	28,654	108,365
	<u>£85,789</u>	<u>£13,228</u>	<u>£700</u>	<u>£98,317</u>	<u>£38,425</u>	<u>£136,742</u>

The assets representing the Awards Funds comprise cash £36,647 (1987: £24,119) and quoted securities at cost £100,095 (1987: £100,095). The quoted securities, which are Gilt-Edged Stocks, have been valued at 30 September 1988 at middle market prices and on this basis their market value at that date was £13,092 (1987: £9,160) above their cost.

## Statement of Source and Application of Funds

Source of Funds	Note	1988		1987	
		£	£	£	£
Generated from operations	1	355,885		549,223	
Proceeds of sales of investments		298,483		212,360	
Proceeds of sales of fixed assets		3,774		-	
Decrease in net working capital	2	<u>39,100</u>		-	
			697,242		761,583
<b>Application of Funds</b>					
Additions to leasehold property		258,086		5,738	
Purchase of investments		254,251		1,033,073	
Purchase of equipment		88,882		93,812	
Increase in net working capital	2	-		<u>32,314</u>	
			601,219		1,164,937
Increase/(Decrease) in cash resources			<u>£96,023</u>		<u>£(403,354)</u>
<b>Notes:</b>					
1 Generated from operations:					
Investment income and results of activities not involving members.			1,120,712		1,090,592
Excess of expenditure over income from members			765,455		591,002
Surplus for the year			355,257		499,590
Depreciation			74,038		59,219
Transfer from provision for property maintenance			(73,410)		(9,586)
			<u>355,885</u>		<u>549,223</u>
2 (Decrease)/Increase in net working capital:					
Stock			3,738		2,175
Debtors and Prepayments			52,584		19,599
Creditors			(76,582)		10,664
Subscriptions in advance			(18,840)		(124)
			<u>(39,100)</u>		<u>32,314</u>

## Report of the Auditors

To the members of The Institute of Marine Engineers

We have audited the financial statements on pages 10 to 16 in accordance with approved Auditing Standards.

In our opinion the financial statements, which have been prepared under the historical cost convention as modified by the revaluation of the leasehold property, give a true and fair view of the state of affairs of The Institute of Marine Engineers and its trading subsidiary at 30 September 1988 and of their income and expenditure and source and application of funds for the year then ended and comply with the Companies Act 1985.

Kreston House,  
8 Gate Street,  
London WC2A 3HJ

FINNIE & CO  
Chartered Accountants  
13 December 1988

**Technical Papers**

"The executive role of the marine engineer" by A.F. Harrold (President.) 13 October 1987.

"Microcomputer-based simulation of marine propulsion systems" by Dr. A. Fowler (Member) 27 October 1987.

"The significance of balancing rotating and reciprocating machines" by Dr. B.H. Thomas (Fellow) and H.W. Harper. 10 November 1987.

"Construction of a semi-submersible accommodation rig in a Japanese shipyard" by A.R. Macleod. 24 November 1987.

"The safe use of electricity under water" by C.W. Logan. 8 December 1987.

"The investigation of marine casualties" by A.F. Harrold (President) 15 December 1987.

"The potential of ceramics and insulation in marine diesel engines" by Dr. N.P. Kyrtatos. 12 January 1988.

"Development of pumps for the marine and offshore industries" by A.G. Shiel and D.M. Manson. 26 January 1988.

"Steel flowlines installation from a diving support vessel" by Dr. T. Sriskandarajah. 8 February 1988.

Marine Applications of the Stirling Engine:- 5 papers presented on 16 February 1988.

- a) "Stirling engines: Potential applications in a marine environment" by Cdr. G.T. Reader (Fellow)
- b) "Marine applications of Stirling engines" by Prof. G. Walker (Fellow), R. Fanvel and Z. Xia.
- c) "Cycles for coal-fired engines for marine applications" by P.D. Dunn and R.A. Marshall.
- d) "Air-independent Stirling-engine-powered energy supply system for underwater applications" by Prof. H. Nilsson and S. Gummesson. 16 February 1988.
- e) "Thermodynamic modelling of Stirling engines - Work at Cambridge University" by Dr. D.H. Rix. 16 February 1988.

"Sequential turbocharging of the MTU 1163 engine" by P. Herring (Member). 1 March 1988.

"The installation of flexible flowlines and their protection" by J.S.H. Heng. 8 March 1988.

"Full scale trials in varying depths of water on a 'King Class' fast patrol vessel" by C. Thew (Fellow). 15 March 1988.

"Evaluation of warship improved current cathodic protection systems" by

Dr. D.J. Tighe-Ford, J.N. McGrath and M.P. Wareham. 22 March 1988.

"Stainless steels as replacement materials for copper alloys in seawater handling systems" by E.B. Shone, R.E. Malpas and P. Gallagher. 5 April 1988.

"New generation semi-submersible crane vessel Microperi 7000" by J.P. Mitchell. 3 May 1988.

**International Conferences**

**Polymers In a Marine Environment**

14-16 October 1987. 36 papers.

"Use of polymers - current practice and state of the art" by J. Crawford (recently retired Principal Surveyor, Lloyd's Register of Shipping).

"Guidelines covering the use of fibreglass pipes on coast guard inspected vessels" by N.W. Lemley and M. Murtagh (US Coast Guard).

"A marine administration's approach to the use of polymers" by Dr J. Cowley (Department of Transport).

"The use of statistics in design data determination for fibre-reinforced composites" by R.L. King (Marconi Space Systems).

"The mechanical behaviour of cylindrical GRP sonar panels" by R.T. Hartshorn and J.S. Carpenter (Royal Navy Engineering College).

"Shipboard experience with glass-reinforced plastic (GRP) pipes in Shell Fleet vessels" by G.C. Grim (Shell Seatex)

"An all-GRP piping, support and walkway system for tanker weather deck applications" by J. Guiton (Shell UK Exploration and Production and Wavin BV).

"The fire endurance of glass-reinforced epoxy pipes" by P.R. Marks (Shell Research Ltd).

"Why glass-reinforced epoxy pipe systems for marine and offshore use?" by J.C.J. Menheere (Wavin Repox).

"Structural use of polymeric composites in ships and offshore" by A.R. Mableson, R.J. Osborn and J.A. Nixon (Vosper Thornecroft).

"The application of composite materials for underwater vehicles and associated marine equipment" by D. Liddle (Slingsby Engineering Ltd).

"Life threat modelling" by P.J. Fardell and T.J. Giddings (Fire Research Station).

"The fire performance of cables on warships" by T.R. Manley and D.A. Harrison (Newcastle upon Tyne Polytechnic).

"Fire-resistant cables for Royal Navy ships" by B.C. Ochiltree and D.M. Warhurst (Admiralty Research Establishment).

"Assessing the risk of corrosion damage from wire and cable system in fires" by T.J. O'Neill (Du Pont (UK) Ltd).

"The effect of seawater on polymer compounds" by J. Unsworth MacQuarie University and C.Y. Ho (Cable Makers Australia Pty Ltd).

"Sensory early warning agents in fire detection" by J.R. Holker and G.R. Lomax (Shirley Institute).

"The effect of immersing natural rubber in seawater and fresh water for very long periods" by K. Ab-Malek (Malaysian Rubber Producers' Research Association).

"Application of nuclear magnetic resonance imaging to the study of water ingress into non-metallic materials" by M.K. Salisbury, A.D.J. Clague and I.R. Herbert (Shell Research Ltd) and P.Mansfield (University of Nottingham) and D. Taylor (University of Surrey).

"Halogen-free low-smoke fire-retardant compounds and cables" by A.J. Clark (Boston Insulated Wire Ltd) and J.A. Taylor (Lindsay and Williams Ltd).

"Effects of aqueous environment on fatigue and elastic properties of rubber" by G.J. Lake and T.J. Pond (Malaysian Rubber Producers' Research Association).

"Osmotic processes in polymers" by P. Meares (Exeter University).

"The interaction of water with epoxy resins" by J. Comyn (Leicester Polytechnic).

"Assessing the resistance to mechanical damage of improved fire performance cable sheathing" by S.G. Swingler (Central Electricity Research Laboratories).

"Damage in rubber due to decompression - effects in water containing dissolved air" by C.J. Derham (Materials Engineering Research Laboratory) and A.G. Thomas (MERL and Malaysian Rubber Producer's Research Association).

"Syntactic foam as a structural material in a marine environment" by A.R. Lyle and M.H. Collins (Shell Research Ltd).

"A method of correlating the thermic and physical properties of rubber" by Z. Seregely (Taurus Hungarian Rubber Works) and I. Molnar and F. Tudos (HAS Research Institute of Chemistry).

"An initial study of the use of compression stress relaxation to predict the service life of rubber seal materials" by B.C. Ochiltree and P. Pickering (Admiralty Research Establishment).

"Electrochemical and conductimetric techniques for predicting paint performance" by K.M. Delargy and D.R. Harrison (Shell Research Ltd).

"Non-toxic alternatives to antifouling paints" by R.F. Brady and J.R. Griffith (Naval Research Laboratory) and K.S. Love and D.E. Field (Sachs/Freeman Associates, Inc).

"Abrasion resistance of polymeric fibres in marine conditions" by M. Goksoy and J.W.S. Hearle (University of Manchester Institute of Science and Technology) and J.F. Flory (Tension Technology International).

"Life and polymeric ropes in the marine environment" by M.R. Parsey and S.J. Banfield (H & T Marlow) and J.W.S. Hearle (University of Manchester Institute of Science and Technology).

"Development of a UK flexible tether joint" by A.F. Moore (Metalstik).

"Developments in polymeric products for offshore cranes and servicing facilities" by F.W. Hampson (NEI Clarke Chapman Ltd) and T.R. Manley (Newcastle upon Tyne Polytechnic).

"Reinforced rubber membranes for the 'CLAM' wave energy device" by L.J. Duckers, F.P. Lockett, B.W. Loughridge, A.M. Peatfield, M.J. West and P.R.S. White (Coventry Polytechnic).

"Experience with polymeric materials during the cross Channel cable installations" by N.H. Waterhouse (Balfour Kilpatrick Ltd) and B.R. Tilbury (BICC Research and Engineering Ltd).

#### **IMAS 88 - The Design and Development of Passenger Ships**

18-20 May 1988. 25 papers.

"Machinery concepts for advanced passenger ships" by K. Jofs of Wartsila Diesel.

"Propulsion system installation in passenger cruising vessels" by L.R. Hansen of Man B&W Diesel A/S.

"Machinery design for overall economy in passenger ships" by H. Schmid of Sulzer Brothers Ltd.

"Reliable economic propulsion systems with high propulsion comfort" by R. Haefner, R. Gruhn and E. Gunther Kroos of Krupp MaK.

"Designing passenger ships for actual service conditions" by M. Kanerva, I. Mikkonen and J. Nurmi of Elomatic OY, Consulting Engineering.

"Structural design improvements of passenger ships" by C. Andreau and L. Gillet (M. Bervas) of Bureau Veritas Chantiers de L'Atlantique.

"Sitmar cruises' diesel-electric cruise ship newbuildings" by R.H. Vie of International Shipping Technical Services Inc.

"Passenger ship vibration and noise: prediction, prevention and cure" by F. Kunz of Lloyds Register.

"Strength and vibration investigations for passenger ships" by H.G. Payer and D. Koster of Germanischer Lloyd.

"Experimental model tank and wind tunnel testing for the design of passenger cruise ships" by J. Victor of Technical Marine Planning Ltd.

"A Comparison between Royal Princess and an equivalent SWATH Ship" by A.H. Jones of British Shipbuilders.

"Considerations in propeller design" by J.W. English of Maritime Technology.

"Ten years experience of highly skewed controllable pitch propellers on passenger ships" by O. Bjorheden of KaMeWa Marine Laboratory.

"Rudder propeller installation on superflex ferries" by U. Gragen of Schottel-Werft Spay.

"Variable frequency AC electric propulsion" by A.D. Graham of Hill Graham Controls.

"Technical history of events prior to the QE2 conversion" by G. Geddes of Gerald Geddes and Partners.

"The re-engining of the QE2 - the largest diesel power station afloat" by W. Oehlers of MAN B&W.

"QE2 from turbine to diesel - Consequences for noise and vibration" by E. Brubakk and H. Smogeli, Det norske Veritas.

"The electric propulsion system of the QE2: Some aspects of the design and development" by J.B. Borman, GEC Electrical Projects Ltd.

"Unicontrol alarm and monitor system" by G.S. Powell, GEC Electrical Projects Ltd.

"Passenger ship legislation" by Dr J. Cowley, Britship (IOM) Ltd.

"Fire protection systems on modern passenger ships" by D.J. Heard, Wormald Europe Ltd.

"Current developments in 'active' fire protection and their applications to future passenger ships" by D.M. Boughen and M.J. Clements, Walter Kidde Plc.

"Ventilation and air conditioning - Planning and layout aspects" by B. Lindburg and H. Svensson, Flakt Marine and Flakt Indoor Climate AB.

"Protection against fire in passenger ships" by S.A. Greer, Seaborne Modular Sciences Ltd.

**Bicentennial Maritime Symposium,**  
Sydney 18-20 January 1988. 34 papers.

"Auseval - A systems approach for the preliminary design of naval ships" by W. Smith, T. Lyon and B.L. Robson.

"Hosdes - A new computer aided system for the conceptual design of ships" by A. Koops, A.C.W.J. Oomen and P. Van Oossanen.

"Ship design and research centre for maritime developing countries" by K.L. Kupras.

"The extreme motions of a frigate in high seas" by J.P. Hooft.

"Hydrodynamic optimisation of trawler hull form design - Effect of chine shape" by R. Whitaker, M. Renilson and J. Van Doorn.

"The assessment of stability of fishing vessels" by P.K. Pal.

"SWATH - The past, the present and the future" by J.E. Sloggett and T.G. Lang.

"The development and application of the Stolkraft high-speed hull form" by J.A. Lund.

"Recent developments in water-jet propulsion of small craft" by G.H. Davidson.

"An appraisal of Australian shipbuilding since 1940" by R. Campbell.

"An industry policy for the Australian shipbuilding industry" by G.M. Marks.

"Bibo - A new shipping concept put into practice" by G.R. Taylor.

"The North West Shelf LNG project" by J.V. Payne and A.H. Taylor.

"The investigation of marine casualties" by A.F. Harrold.

"The ship repair industry in Singapore" by Y.Y. Fong.

"The Australian ship repair industry" by J.F. Weatherby.

"Naval shipbuilding in Australia" by J.C. Jeremy.

"Defence shipbuilding prospects in Australia" by Commander M. Warrington.

"Australian maritime coastal surveillance beyond 2000" by K. Williams and R. Ramsey

"Hydrodynamic Support in the Design of Submarines" by T.J.C. Van Terwisga and J.P. Hooft.

"Building submarines in Australia - The new submarine project" by Rear Admiral O.J. Hughes and H.H.G. Dalrymple.

"A state of the art minimum magnetic minehunter for the Navy" by J.R. Fonseca.

"Bulksim - A mathematical model for the techno-economic evaluation of dry bulk transportation systems" by I.L. Buxton and P. Sen.

"Reliability engineering - A means to rationalize regulatory oversight of marine engineering systems" by H.C. Blanding.

"The management of refrigerated cargo in containers - An Australian perspective" by B. Davis.

"Manning the ships of developed countries - An alternative approach" by H. Benford.

"Marine traffic information and control systems" by B.H. Groves.

"Integration of research electronics for multi-purpose research vessels" by I. Harre.

"An Australian designed marine engine monitoring and integrated ship System" by G. Edwards

"The MC engines - An engine programme with Innovations" by MAN B&W Diesel A/S.

"Control systems and marine transmission developments" by C.F. Rawlings.

"Australian marine engineers - education and training" by J.J. Seaton.

"The training of professional naval architects" by G. Cox.

"The work of the ship hydrodynamics centre at the Australian Maritime College" by M.R. Renilson.

**8th Biennial Seminar on "The Economic Ship"** Singapore 2-4 December 1987. 17 papers.

"Optimization of ship speeds along prescribed course under uncertainty" by C. Foo, C.K. Neptune Orient Lines Ltd.

"A voyage management system to improve the economy of operations of Ships" by M.J. Dove and R.S. Burns, Plymouth Polytechnic.

"The economic ship - NOL approach" by Toh Ho Tay, Neptune Orient Lines Ltd.

"MIP - Calculator NK-5" by K.M. Ostboll and L.K. Weum, Autronica Marine AS, Norway.

"The engine performance program" by P.T. Levitt and J.P. Aylott. Vecom Technical Services BV, Netherlands.

"Reliability - The prime factor for achieving good economy" by I. Ahiqvist, Wartsila Diesel.

"Recent development of Mitsubishi UE diesel engine and MET turbocharger" by K. Tamaya and J. Kondo, Mitsubishi Heavy Industries Ltd, Japan.

"The impact of fuel additives on diesel engines" by Low SC Nanyang

Technological Institute, Singapore.

"Advanced exhaust gas economizer plant and its important problem of outer fouling" by Ellchi Nishikawa, Kobe University of Mercantile Marine, Japan.

"Some aspects of further developments of Sulzer's two stroke engines with special respect to the latest RTA2 diesel engines" by Dr G. Lustgarden, Sulzer Brothers Ltd, Switzerland.

"Simulator aided training in diesel engine operation, performance monitoring and fault diagnostics" by A. Ray, Singapore Polytechnic.

"Fine tuning of propeller/engine design speed" by F. Prochaska, Sulzer Brothers Ltd, Switzerland.

"Fuel saving on ASEAN ship" by S.D. Sarma and Roland Tan, Singapore Polytechnic.

"Computerised shipboard data systems" by R. Sampat Kumar, Neptune Orient Lines Ltd.

"Prospects of use of expert systems for on-line diagnosis in a fully instrumented marine power plant" by Ho Hon Wai, Singapore Polytechnic.

"The ultimate in economy and flexibility" by K. Taylor, MacGregor-Navire, Hong Kong.

"The role of refrigerated ships in the economic operation of an effective cold chain" by Admadul Ameen, Nanyang Technological Institute, Singapore.

## Membership Statistics

### Analysis of membership classes as at 30 September 1988

	United Kingdom	Overseas	Address Wanted	Total
Fellows	3168	1829	160	5157
Members	3422	1773	154	5349
Associate Members	1711	1309	117	3137
Graduate Members	36	18	-	54
Associates	368	286	24	678
Consociates	918	428	74	1420
Affiliates	-	136	-	136
Total	9623	5779	529	15931

Grand Total 15,475

Excluding Past Presidents 2 Honorary Fellows 2 Companions 2

### Branch Membership as at 30 September 1988

United Kingdom			Associate	Graduate			Total
	Fellows	Members	Members	Members	Associates	Consociates	
Aberdeen Maritime	86	121	55	1	6	54	332
Devon & Cornwall Joint	1118	163	83	2	28	37	429
Kingston-upon-Hull & Humber	105	111	79	-	13	38	346
North East Coast	293	321	198	1	24	90	927
Northern Ireland Joint	62	38	47	-	10	11	168
North Midlands	63	88	41	-	14	23	229
North West England	359	367	209	2	51	126	1114
Scottish	340	396	243	6	49	113	1147
South East England	398	402	143	3	35	88	1069
Southern Joint	347	370	184	2	42	70	1015
South Wales	110	99	58	1	12	15	295
Western Joint	116	131	51	2	18	24	342
West Midlands	102	115	53	1	9	41	321

Overseas			Associate	Graduate			Total
	Fellows	Members	Members	Members	Associates	Consociates	
Eire-Cork	14	14	23	-	5	6	62
Eire-Dublin	25	28	22	1	2	5	83
Australia-Canberra	12	15	2	1	2	2	34
Australia-Newcastle	32	20	33	-	13	11	109
Australia-Queensland	62	54	40	-	27	24	207
Australia-Sydney	152	99	62	1	24	43	381
Australia-South	21	23	13	-	6	6	69
Australia-Victoria/Tasmania	100	67	36	2	12	30	247
Australia-Western	58	43	31	-	13	18	163
New Zealand-Auckland	71	68	31	1	8	5	184
New Zealand-South Island	33	5	15	-	6	5	64
New Zealand-Wellington	45	23	20	2	2	4	96
Greek Joint	44	59	26	-	2	18	149
Hong Kong Joint	81	228	123	8	24	59	523
Malaysia	3	47	49	2	12	8	121
Malta Joint	15	10	11	-	-	2	38
Netherlands	49	30	21	-	3	7	110
Nigeria	5	15	20	-	1	7	48
Pakistan	29	19	59	-	8	3	118
Singapore	57	141	99	-	20	28	345
Sri Lanka	8	18	74	-	15	5	120
United Arab Emirates	18	12	18	-	3	1	52
USA-Eastern States	90	51	28	-	2	21	192

## Areas (excluding branches) with 25 or more members as at 30 September 1988

Area	Fellows	Members	Associate Members	Graduate Members	Associates	Consociates	Total
Africa Central & West	11	19	30	-	10	2	72
Bangladesh	5	2	11	-	-	7	25
Canada	227	115	28	1	6	22	399
Channel Islands	8	7	9	-	1	3	28
Far East	41	22	42	-	4	6	115
France	11	13	6	1	2	1	34
India	132	198	159	-	14	11	514
Isle of Man	16	10	8	-	4	2	40
Italy	20	17	4	-	-	1	42
Near & Middle East	49	44	40	-	14	12	159
Norway	10	26	1	-	1	-	38
Portugal	19	3	14	-	3	4	43
South Africa	71	37	8	-	4	4	124
South America	17	9	18	-	1	3	48
Spain	18	11	11	-	-	2	42
Sweden	8	8	8	-	1	-	25
USA (excluding Eastern States)	38	30	11	-	2	7	88
W.Germany	19	15	7	-	-	-	41
West Indies	14	5	6	-	1	2	28

## Institute membership 1979 to 1988

Year	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Corporate members	13,181	12,702	12,352	11,966	11,725	11,496	11,235	10,760	10,472	10,506
Non Corporate members	5,611	5,562	5,497	5,362	5,284	5,325	5,311	5,220	5,294	5,425
Total	18,792	18,264	17,849	17,328	17,009	16,822	16,546	15,980	15,766	15,931

Excluding Past Presidents 2 Honorary Fellows 2 Companions 2.

## Members who Qualified for Certificates of Forty-five Years Service

Name	Area	Name	Area
H.J.Alexander (Fellow)	Herne Bay	W.D.Johnston (Fellow)	London
H.F.Bates (Fellow)	Midhurst	S.R.Jones (Fellow)	Cheltenham
W.Blacklock (Member)	Ulverston	P.Kennedy (Fellow)	Harlow
J.D.Booth (Fellow)	Australia	F.A.Larter (Fellow)	York
S.F.Chisholm (Fellow)	Address Wanted	T.W.Lunn (Consociate)	Address Wanted
S.N.Clayton (Fellow)	Nr. Bishops Stortford	G.Manson (Fellow)	Gourock
P.J.Scoombes (Fellow)	Cornwall	J.G.McInnes (Fellow)	Nr.Newhaven
R.Crowther (Fellow)	Australia	D.E.Millar (Fellow)	Grimsby
G.Curphey (Fellow)	Canada	A.S.Minton (Consociate)	Cardiff Docks
J.J.Delaney (Fellow)	Southampton	R.T.Owen (Fellow)	Thorpe Bay
J.V.Downing (Fellow)	London	D.S.E.Row (Member)	Exeter
G.Emmerson (Fellow)	U.S.A.	J.Scott (Fellow)	Bristol
F.V.Everard (Fellow)	Great Missenden	H.Shannon (Fellow)	Address Wanted
G.Filshie (Fellow)	Liverpool	W.A.Smellie (Fellow)	Bridlington
A.O.Gaunt (Member)	Devon	W.Smith (Consociate)	Address Wanted
W.D.W.Gillies (Fellow)	Little Chalfont	G.Thorpe-Smith (Fellow)	Argentina
A.L.Giordan (Fellow)	Powys	R.Vart (Consociate)	Merseyside
E.Hall (Fellow)	Newcastle-upon-Tyne	J.C.Wallhead (Fellow)	London
L.Hayesv (Fellow)	Gwent	A.F.Whiteley (Fellow)	Nr. Whitby
N.J.Healy (Fellow)	Co.Dublin	N.Williams (Fellow)	Spain
E.A.Jackson (Fellow)	Lymington	J.J.Wilson (Fellow)	Reigate
W.G.Jackson (Fellow)	Middlesbrough		

## Subscription Rates for 1988/89

Class	Annual Subscriptions	Annual Subscriptions *Developing Countries
Fellows	£49.00	£37.00
Members	£44.00	£32.00
Associate Members	-	-
age 30 years and over	£42.00	£31.00
age 25-29 years	£24.00	£20.00
age 23-24 years	£13.00	£13.00
Graduate Members/Associates/Consociates	-	-
age 30 years and over	£40.00	£31.00
age 25-29 years	£24.00	£20.00
age 22-24 years	£13.00	£13.00
age under 22 years	£ 7.00	£ 7.00
Retired Members	£25.00	£25.00
with 20 years membership	£ 7.00	£ 7.00
with 20 years membership but without MER	£ 4.00	£ 4.00
Affiliates	£18.19	

\*Developing Countries - Bangladesh, Burma, India, Malawi, Peoples Republic of China, Ghana, Sri Lanka, Kenya, Sierra Leone, Pakistan, Yemen, Zambia, Indonesia, Egypt, U.A.R., Nigeria, Philippines, Gambia. Members residing in India and who are currently members of both The Institute of Marine Engineers and The Institute of Marine Engineers (India) are subject to a subscription rate of £3.00.

Members who have retired from remunerative employment are eligible to apply for the reduced subscription rate of £25.00 p.a. Those members who have similarly retired and who have been on the Membership Roll for more than 20 years are entitled to a reduced rate of £7.00 p.a. or

£4.00 p.a. Those paying the higher rate are entitled to receive the full membership services available from the Institute free of charge.

Any member suffering financial hardship may apply to the Membership Committee to be considered for a reduction in the annual subscription. Members making such an application are assured that it will be treated with complete confidentiality. Students studying on full-time courses leading to an honours degree or similar qualification accredited with the Institute are also eligible to apply for a reduced subscription rate.

All members elected to the membership roll with suitable qualifications and wishing to register with the Engineering Council are

required to pay an entrance fee as listed; this payment, however, includes the annual registration for the first year. Retired members who are registered with the Engineering Council must pay 50% of the annual registration fee.

Those members belonging to two or more professional engineering institutions and registered with the Engineering Council need only pay one annual registration fee through one institution of their choice. Such members should ensure that the institution through which they wish to make payment is made aware of this, and that the other institutions are notified of the member's choice. Failure to ensure that this fee is paid can result in a member being removed from the Engineering Council Register.

## Engineering Council Fees 1988/89

Class	Registration Category	Entrance Fee	Annual Registration Fee
Fellows	C.Eng.	£17.00	£8.00
Members	C.Eng.	£17.00	£8.00
Associate Members	I.Eng.(T.Eng.)	£13.75	£6.60
Associates	Eng.Tech.	£ 5.75	£3.00

## Reports of the Branches 1988

### United Kingdom

#### Aberdeen Maritime

The branch had a varied year with a good range of speakers and subjects. Business and pleasure were combined in a visit to the National Hyperbaric Centre, Aberdeen in November 1987. An innovative Burns Supper was held in January 1988 at the Westburn Lounge, Aberdeen, which was very well attended by members and their guests. A visit was made early March to Shell Expro Technical Training Centre, Altens, Aberdeen. The Annual Dinner and Dance held in September 1988 proved the most successful to date, from a raffle held in aid of the IMarE Centenary Lifeboat Appeal.

The following technical papers were read:-

5 October 1987

Annual General Meeting followed by "Rosyth Dockyard - past, present and future" by Mr Harper, Babcock Thorn.

7 December 1987

"Removal of steel platforms from the North Sea" by Dr F A Ramzan, Brown and Root.

1 February 1988

"History of Aberdeen harbour", by Mr Turner, Aberdeen Harbour Board.

11 April 1988

"Vibration aspects of medium speed propulsion and auxiliary engines" by G Best, Ruston Diesels.

#### Devon and Cornwall Joint

Steady support for the joint branch has been maintained in spite of many counter attractions in this Armada Anniversary year. Regular Committee meetings have been held and, with the new Chairman being an IMarE member, closer contact with Council has ensued. The Annual General Meeting was again well attended, being held in a very popular venue viz. the Tamar Room of the Plymouth Polytechnic, and was a social occasion also. The branch was favoured by the presence of the Honorary Treasurer, Mr J McNaught.

As usual, five prizes were awarded by the joint branch to students at the Royal Naval Engineering College, Plymouth Polytechnic, and the College of Further Education in Plymouth. As in previous years the prizes consisted of suitably engraved plaques bearing the arms of the parent bodies.

Continued membership of the Western Alliance of Professional Organisations is proving rewarding in generating extra publicity and interest in branch affairs, particularly in bringing notice of the lectures to a wider audience. The branch is fortunate in having the opportunity to use

two very fine venues for presenting its lecture programme, these being the Royal Naval Engineering College at Manadon, Plymouth, and the Plymouth Polytechnic. Lectures presented during the year have been well attended, with two again being given by local people which helped to strengthen interest in branch affairs.

Lecture programme:-

13 October 1987

"The BP SWOP ships" by T J Parker, Chairman & Chief Executive, Harland and Wolff.

Joint meeting with the Nautical Institute

3 November 1987

"Kurdistan - the anatomy of a marine disaster" by E C B Corlett, J C Coleman and N R Hendry, Burness Corlett & partners.

26 January 1988

"Research vessel design" by G Dean, Product Development Manager, Appledore Ferguson shipbuilders.

22 March 1988

"Use and development of composite materials for small craft", seminar led by P Rudling, Structural Polymer Systems Ltd

26 April 1988

"Voyage management system for the efficient ship" by M J Dove and R Burns, Institute of Marine Studies and the Faculty of Technology, Plymouth Polytechnic.

17 May 1988

"Devonport Management Ltd. - first year of operation" by M Leece, Managing Director, Devonport Royal Dockyard. Joint meeting with Nautical Institute.

#### Kingston Upon Hull and Humber Area

During the year the following technical meetings were held:-

1 October 1987

"Operation Raleigh" by D A Hopkins

26 November 1987 "J Marr and Sons - offshore activities" by J Hind.

16 March 1988 "Water hydraulics" by J Currie. Joint meeting with IMechE.

24 March 1988

"Dual manning" by J E Foreshaw

21 April 1988

"Structural repairs to offshore installations" by W J Winkworth.

29 September 1988

"The investigation of marine casualties" by A F Harrold.

A visit to m.v. "NORLAND" and m.v. "NORSUN" took place in February 1988 attended by members and their families. A summer visit to R A F Leconfield took place during September 1988, where members and their families were shown

slides, had a lecture and were then allowed to explore the inside of a Sea King Search and Rescue Helicopter.

The 37th Annual Dinner was held, at the Guildhall, Hull, in November 1987. The Annual Dinner Dance held at the Willerby Manor Hotel in March 1988 was again very successful. Profits from the Tombola are to be distributed equally between the Guild of Benevolence, Sailors Childrens Society and the IMarE Centenary Lifeboat Appeal.

During the course of the year the Chairman laid a wreath at Hull Cenotaph in remembrance of the men of the Merchant Navy who died during the World Wars. He also attended dinners given by the Institution of Electrical Engineers, Royal Aeronautical Society and the Hull Association of Engineers. He also attended the Sea, Field and Factory Service given by the Lord Mayor.

### North East Coast

Branch activities were as follows:-

15 September 1987 (Joint meeting)  
ECRO Annual Prestige Lecture "The science of flame" by P A Cabbage.

15 October 1987  
"Marine machinery failures" by R F Munro

19 October 1987  
"Construction of semi-submersible vessels at the Mitsui Shipyard" by A K Macleod.

22 October 1987  
"Sensitivity analysis applied to alternative sources of auxiliary power" by I Thorp.

12 November 1987  
"Investigation of marine casualties" by A F Harrold

10 December 1987  
"The significance of balancing rotating and reciprocating machines" by Dr B H Thomas and H W Harper

14 January 1988  
"The potential of ceramics and insulation in marine diesel engines" by Dr N P Kyrtatos.

8 February 1988  
"Evolution of modern high output medium speed diesel engines" by J K Turner and W A Poynton.

15 February 1988 (Joint Meeting)  
Thomas Lowe Gray Lecture "Maritime research and high tech development" by D Goodrich

18 February 1988  
Annual General Meeting followed by "Pumps for the marine and offshore oil industries" by A Sheil and D Manson.

17 March 1988  
"Engineering and safety - a marine engineer's viewpoint" by Dr J Cowley

28 April 1988  
"Cathodic protection and paint systems" by Dr K McLeod.

The Annual Dinner and Dance was held in the Civic Centre, Newcastle-upon-Tyne on 18th March 1988. The President, Mr A F Harrold, proposed the toast to the guests. Mr P C Cooper, Chairman, North Eastern Branch of the Institution of Mechanical Engineers, replied on behalf of the guests. A raffle was run in aid of the Guild of Benevolence, resulting in a donation to that body of £635.

The Prestige Lecture for 1987 was held over two days during September. The subject 'The science of flame' was presented by a team from British Gas, Birmingham Research Centre. The two days were used to include presentations to parties of local school children in addition to the evening public presentation.

Input '88 was held in July and September 1988 with a four-day design, make and test project involving young people and teachers, sponsored by Durham University, Department of Industry, Local Education Authorities and ECRO (Northern).

The Careers and Education Units continued to be involved with schools through the following activities:-

Opening Windows on Engineering  
Neighbourhood Engineers  
Curriculum Advise  
Technical & Vocational Education Initiative Advice  
Careers Conventions

The past year demonstrated yet again that the branch continued to be active and healthy. There was a full range of well-attended papers and it was particularly encouraging to note the number of joint meetings held in conjunction with other local engineering organisations.

### Northern Ireland Joint

The session commenced in October 1987 with the Annual Dinner held at the Culloden Hotel when the branch was honoured with the presence of the President, Mr A F Harrold, who represented The Institute of Marine Engineers and Mr A Rogan who represented the Royal Institution of Naval Architects. The guest speaker was The Right Hon. Ken Maginnis MP.

The first lecture of the session was held on 24 November 1987 at the usual venue, University of Ulster, at Jordanstown, entitled "Modern passenger ship construction" delivered by E D Mackie, and a team from Govan Shipbuilders. The lecture traced the re-organisation of the yard to cope with modern methods and practice of today's passenger vessels and progressed through the various stages of production and

assembly right up to completion and sea trials. This was a most interesting topic for the audience as the four latest passenger ferries for Sealink were comparatively recently completed in Belfast, and also since Mr Mackie had held a senior post in ship construction at Harland and Wolff. A very lively discussion and question session followed.

On 26 January 1988 a lecture entitled "Under water hull survey", accompanied by a video, was delivered by D Moore, Dive Care Systems. It was an unusual type of lecture in that it did not contain much in the manner of technical content, but dwelt more on the diving aspects of the operation. It was, nevertheless, quite interesting to members as two vessels had been hull surveyed in water in Larne harbour. The benefits of this mode of survey are limited and only carried out in clear water. A healthy discussion followed, and at least some of our diving friends gleaned some useful information.

The Annual Dinner Dance was held in the Culloden Hotel on 13 February 1988 when the branch had the pleasure of the company of Mr and Mrs A F Harrold. A very enjoyable evening was had by all and a special Tombola raised the grand sum of £700, which was donated to the IMarE Centenary Lifeboat Appeal.

The Annual General Meeting was held on 16 February 1988 in the Senior Staff Club of Queens University. The lecture on 22 March 1988 was delivered by J F Birch, Lloyd & Jones Engrs. Ltd entitled "Ship of the future" based on a paper by K H Paetow, H. D. W. Kiel. This lecture again did not contain much in the way of technical information, but gave a good example of methods used or about to be introduced to the shipping industry. It was enlightening to note the extent to which modern technology was being employed and the duties of a much reduced number of crew and officers. It was a sharp contrast to conditions and methods used when most members were at sea, but some of the younger members were aware of the rapid changes taking place. A very interesting video was used to portray some of the methods presently or shortly to be introduced. There was a very good discussion following the lecture, and it was interesting and amusing to note the attitudes of some members who had been ashore for some years.

On 11 June 1988 the m.v. BALMORAL which had been cruising in coastal waters, arrived at Dunaghadee to cruise in Belfast Lough and was joined by members and friends at various ports of call. A most enjoyable evening was had by all, a meal being provided for those who wanted it and suitable other refreshment was available.

It turned out a most beautiful evening weather-wise and it is intended to repeat the event next year.

The lecture on 27 September 1988 entitled "Development of the passenger vessel" was delivered by Messrs. S Nielsen, F A Petersen, and P Madsen of Knud E Hansen. Their talk traced the development of this type of vessel through the years, highlighting the popularity of the passenger vessel solely as a mode of transport between the continents early in this century, its development into combined passenger and cargo vessels as the century advanced. With the advent of aeronautics the passenger carrying mode declined. Modern methods of construction, new materials, and advanced hull forms were discussed, also the decline of steam propulsion in the wake of the more economical diesel engine. Some interesting points were made regarding proposed vessels at present being seriously considered and well advanced in the design stage. A very thoughtful and lively discussion followed the lecture.

### North Midlands

Following the branch A.G.M. on 3 October 1987 held at the Waggon & Horses, Langset, a traditional Yorkshire lunch was served to members and their wives. Later the party visited nearby Holmfirth to view many of the locations used in the B.B.C. series "Last of the summer wine". On 27 April 1988 a lecture was held at Nottingham University entitled "Bottom line profit from anaerobic treatment of effluent" by Messrs Bio Mechanics. This topical subject dealt with the powering of boilers from brewery waste.

On 25 June 1988 a coach party visited Beamish Museum, Stanley, County Durham, starting in Derby and collecting members in Leeds with a coffee stop in historic Ripon Market Square. Members and their wives had a full afternoon visiting the extensive exhibitions and locations in this popular northern venue before returning home.

The two ECRO lectures held in the branch area were well supported by members and it should be noted that after a gap of several years a Branch Dinner was held on 16 April 1988 and was well attended.

### North West England

During the past twelve months attendance at the technical lectures increased and the Committee are pleased that the programme arranged was attractive to the membership. A total of six lectures were held at follows:-

5 October 1987

"The QE2 conversion" by Herr W Ohlers, M.A.N. B & W.

2 November 1987

"A shipowner's approach to low quality fuels & off specification fuels" by D J Mottram, Blue Star Management.

8 December 1987

"The work of Lloyds Register of Shipping" by A D Muncer, Lloyds Register, Liverpool.

18 January 1988

"The design and construction of the ship of the future" by K H Paetow, HDW, Kiel.

8 February 1988

"Engine room energy optimization" by H Klinton, M.A.N. B & W.

7 March 1988

Joint lecture with Merseyside & North Wales Branch of the IMechE. The Thomas Lowe Gray Lecture "Maritime research & high technology" by D Goodrich, British Maritime Technology Ltd.

The branch has representation on the two ECRO Committees that cover its area and members have been active both at the technical meetings and the social events arranged. For members in the northern part of the branch area, the Professional Engineers of South Cumbria (PESC) arranged meetings that covered mutual ground in engineering and it is hoped that members will continue to give PESC their support.

### Scottish

A total of seven branch meetings were held at the University of Strathclyde, Glasgow. The subjects covered a wide range of marine engineering and offshore related topics. The meetings were well received and attended with lively exchanges in the discussions.

The papers presented were:-

6 October 1987

"Recent changes in certification of marine engineers" by A Bolwell, Glasgow, Nautical College, A Wood, Deputy Chief Examiner, Department of Transport. D Long, The Institute of Marine Engineers.

3 November 1987

"Some marine machinery failures and their causes" by R F Munro, Lloyd's Register.

17 November 1987

"The Pielstick PA and PC engine range" by D A Gillespie, Chief Engineer, Crossley Engines Ltd., Manchester.

1 December 1987

"Acoustic aspects of flexible coupling selection for marine propulsion systems" by Dr Z Chowaniec, Applied Acoustic Group, Y.A.R.D.

12 January 1988

"Marine casualties worldwide" by A Galloway, Deputy Manager and Chief Surveyor, The Salvage Association.

2 February 1988

"Passenger ferry operation on the West Coast of Scotland" by R C Branch, Chief Superintendent Engineer, Caledonian MacBrayne Ltd.

1 March 1988

"Safety engineering requirements on offshore production platforms" by B A Montgomery, Senior Engineer, Fire and Safety, Shell Eider Project.

Two of these meetings were joint meetings; the 3 November 1987 with the West of Scotland Branch of the Nautical Institute and the 12 January 1988 with the Institution of Engineers and Shipbuilders in Scotland. A third joint meeting was held at Greenock on 2 November 1987 with the Greenock Association of Engineers and Shipbuilders where a paper entitled "Wind turbines" was read by Mr Elliott of the National Engineering Laboratory, East Kilbride.

The Annual Diner Dance was held in the Albany Hotel, Glasgow on 14 November 1987. The evening was voted a great success and thanks to the generosity of all contributors the Tombola collected a tidy sum for the Guild of Benevolence. The 34th Annual Dinner was held at the Hospitality Inn, Glasgow on 19 February 1988. The main speaker and guest of honour was Mr A F Harrold, President, and replying on behalf of the guests was Mr A H Scott of Babcock Construction Ltd. The Institution of Mechanical Engineers was represented by Professor H C Simpson, Chairman, and ECRO Scotland West by Dr S W Kerr, Chairman.

The Spring 1988 Golf Outing was held over Cathcart Castle Golf course and as always competition for the prizes was keen. The 'Anchor Trophy' was won by B Jackman and the 'Shell Salver' by J A Lazaras. The Autumn 1988 Golf Outing was held at Erskine Golf Club. The 'Beattie Cup' was won by J Bryne and the 'Hamworthy Rose Bowl' was won by J M Taylor. An enjoyable day was had by all competitors.

In 1987/88 the Scottish Branch Committee set up an annual award with a prize of £100 and the Denholm Medal for the best project related to marine engineering produced by any student on a SCOTVEC Higher National Diploma or Higher National Certificate course in Marine, Mechanical or Electrical Engineering or Shipbuilding. The first winner of this award was Mr Roderick King, a student on the H.N.D. course in Marine Engineering at the Glasgow College of Nautical Studies, for a project entitled 'Non-Destructive testing as applied to gas turbine components'. The Denholm Bronze Medal was presented to him by Mr J M Brown, Technical Director of the Denholm Group at the 3 November 1987 meeting.

In connection with the IMarE Centenary Lifeboat Appeal a family cruise was arranged with the assistance of Western Ferries (Clyde). The cruise from Gourrock to Carrick Castle on 18 September 1988 was attended by members, families and guests, with refreshment at Carrick Castle. The cruise was enjoyed by all and raised an adequate return towards the Lifeboat Appeal. Mr A McLaughlan has had to step down as Honorary Secretary following his transfer to Hong Kong.

### South East England

The branch arranged eight senior technical meetings. Once again there were no junior meetings due to lack of suitable opportunity but the Education Panel are hopeful that this situation will soon end.

The senior meetings included joint meetings with the Institute of Measurement and Control, Institution of Mechanical Engineers and the Colchester Engineering Society, four being held at Gravesend, three at Dover and one each at Colchester and Brentwood. In addition, there was the Annual General Meeting followed by a wine tasting by the Bulgarian vintners.

There were two well attended social occasions during the year, the Annual Dinner and Dance in October 1987 and The Annual Dinner in April 1988.

### Southern Joint

During the year the following papers were read:-

6 October 1987

"Developments in the tank testing of 12m yachts" by A R Claughton.

21 October 1987

"Ferry stability" by J R Spouge.

4 November 1987

"Modern passenger ship construction" by E D Mackie

18 November 1987

"Non destructive testing in shipbuilding" by R Jones.

3 December 1987

"Developments in the Prediction of ship manoeuvring characteristics" by Dr N E Mikelis.

14 January 1988

"Carriage of dangerous goods" by P Ward.

3 February 1988

"Skewed propellers" by M A Clarke.

17 February 1988

"Metalock services to the marine industry" by J H Bellamy.

1 March 1988

Annual General Meeting followed by "Engineering and education" by Dr J Cowley.

17 March 1988

"Fuel oil conditioning for main and auxiliary engines" by I D Ballard.

In May 1988 the joint branch President's supper was held at Meon Valley Country Club when the branch was delighted to welcome representatives from other local professional associations. In September 1988, the Annual Dinner was held in Portsmouth and it was by far the most successful dinner the branch have ever held. Principal guest was the President of IMarE, Mr A F Harrold.

### Western Joint

Technical lectures were held as follows:-

October 1987

"Yacht designs for the America's Cup" by E Dubois

November 1987

"Nuclear Reactor Decommissioning" by H Lawton, UKAEA

December 1987

"The sinking and wreck of RMS Titanic" by D F Hutchings, The Titanic Society.

January 1988

"The Single-Well oil production ship" by H Rush, BP Shipping Ltd.

February 1988

"Marine gearing - modern trends and recent failures" by B C Cooper, MOD (PE).

March 1988 Joint lecture with South Wales Branch "Structural design features of conversions and jumboisings" by A S White, Lloyd's Register.

April 1988

"Construction and trials of the replica trireme" by J F Coates, the Trireme Project.

All lectures were enthusiastically received and the branch council is grateful to all lecturers for their time and effort.

Members went on two technical visits in October 1987 to HMS Warrior (1860) and Portsmouth Naval Base and in May 1988 to Austin Rover car-body plant at Oxford. The main social event of the year was the Annual Dinner Dance, held at the Redwood Lodge Hotel, Bristol. The principal guests were Mr A F Harrold (President IMarE), Prof. K J Rawson (Vice-Chairman of Council RINA), Mr P D Thomas (Chairman of South Wales Branch IMarE) and their wives. This was a successful occasion enjoyed by all who attended.

### West Midlands

The branch programme for the season got off to a good start when Mr Course of Lloyd's Register of Shipping talked about the use of reinforced plastics in the construction of racing yachts. This was followed in October 1987 by a talk on

thermography which basically is the use of infra-red surveys in engineering and other related subjects. The next talk took place in January 1987 when Mr Gough gave a thoroughly interesting talk on lighthouses, their history and lights.

The final lecture of the season took place on 30 March 1988 at the St John's, when the well known naval correspondent, Mr Wettern delivered a controversial lecture entitled "UK sea power - a declining asset". This proved to be a very interesting evening.

On the 19 November 1987, the branch held its most successful 35th Annual Dinner at St John's Hotel. Attendance for the event grows every year due to its cost effectiveness, the excellent food and entertaining speeches. Another record was set when guests raised the sum of £504 which was donated to the Guild of Benevolence. The Branch was honoured by the presence of the President, Mr A F Harrold, Secretary, Mr J E Sloggett, and other distinguished overseas guests, including Mr Jin Jingmin, Naval Attaché of The People's Republic of China. The principal speaker was Mr A Waterworth, a consultant surgeon.

The summer outing was held on 23 April 1988 comprising a visit to the Chatterley Whitfield Mining Museum & Trust, Stoke-on-Trent.

### Overseas

#### Australia/New Zealand Division

##### Canberra

Meetings held and attended by branch members and guests were:

23 March 1988

"Reverse osmosis plant on HMAS Jervis Bay" by M A Quinn, Memtec Ltd (Joint meeting with RINA)

25 May 1988

"Modern development of the Stirling Engine" by J Blackburn-Watson

3 August 1988

"The MEKO 200 ANZ frigate" by P Coombes (Joint meeting with RINA)

5 September 1988

"The ALSOC LNG ships" by A Taylor (Joint meeting with I E Aust and RINA during Professional Engineers' Week)

19 October 1988

"Australian Maritime College diesel simulators" by A Weddle.

The branch provided an unmanned stand for Professional Engineers' Week at the Hyperdome from 5-10 September 1988. The combined Annual Dinner, held in July 1988, hosted this year by RINA, was again a success. The branch is indebted to the

Forrestry Department of the ANU for their co-operation in allowing the use of their lecture theatre and facilities during the year.

## Newcastle

20 November 1987

Annual General Meeting followed by technical films.

19 February 1988

"Novel container ship designs" by Messrs D Gillies and W Ellis

22 April 1988

"Australian submarine project" by G Rose

20 May 1988

"Diesel engine simulators" by A Weddle

29 June 1988

"The Rankin Park Hospital project" by L Griffin - a combined meeting with the Australasian Corrosion Association

26 August 1988

"Micro computers in diesel engine design" by N Lawrence

13 September 1988

"The role of the average adjuster" by S Walker - a combined meeting with the Company of Master Mariners

23 September 1988

"The results of diesel tune" by G Edwards

In January 1988, members and their wives met guests for an informal barbecue at Blackbutt Park and later proceeded into the Hunter Valley for a tour and lunch with committee members at the Wine Society. As part of the Newcastle Branch contribution to the Institute's Centenary, a special Crock of Port was struck and presently is selling well.

## Queensland

The following technical meetings were held in the Ward Room, HMAS Moreton, New Farm, Brisbane:

11 November 1987

Technical paper "The Wivenhoe hydro scheme" followed by the AGM

13 November 1987

Annual Dinner at the Park Royal Motel, Brisbane

10 February 1988

Technical paper "The selling of ships for scrap" by R Wakefield

9 March 1988

J Mellors, presented a paper detailing his experiences during his trip as chief engineer of the training ship, Sir Walter Raleigh

13 April 1988

W Burns, Wilson Walton, presented a paper detailing "Computer based fuel oil consumption monitor"

11 May 1988 technical meeting "Inchcape marine salvage" by I Hodgkinson

8 June 1988

H Campbell presentation entitled "The riverside coal story"

10 June 1988

Ladies Night at Silks Restaurant, Albion Park, Brisbane

19 July 1988

Joint meeting with the Australian Association of Abrasive Blasters at the A.C.I., Brisbane. Speakers - Mr Biddle of Taubmans Paints and Mr Williams, The Institute of Marine Engineers.

The following meetings were held at The Mission to Seamen, Hamilton, Brisbane:

10 August 1988

T Smith, Association of Master Mariners presented a paper on "The exploration of the wreck of the Pandora"

14 September

1988 joint meeting with the Institute of Engineers Australia, presented by J Garbutt, Williamstown Dockyard.

## South Australia

The seventeenth Annual General Meeting of the branch was held on 4 November 1987 at the Australian Mineral Foundation, followed by the first technical meeting of the year. M D Softley, Manager Engineering-Mine Surface Works & Metallurgical Plant, Roxby Management Services Pty Ltd, addressed the meeting on the subject "Olympic dam - developments to date". The address provided interesting and informative information on the future prospects of this huge joint mining venture by Western Mining Company and British Petroleum, including the recovery and processing of copper, uranium, gold and silver, with establishment costs to date of A\$800 million.

During the year under review, the following technical meetings at the Australian Mineral Foundation and visits were held:

4 March 1988

Ship visit and technical meeting, Ro-Ro Ferry, "Island Seaway" at Port Adelaide. A conducted tour of this recently commissioned vessel was arranged through the managing agents, R W Miller & Co Pty Ltd and kindly undertaken by their engineering superintendent and the ship's chief engineer

11 May 1988

Technical meeting "Fluidised bed boilers for industrial use" by M W Dennis, Managing Director, The Energy Equipment Co (Australia) Pty Ltd.

13 July 1988

Technical meeting "35 metre catamaran survey motor launches (SML) for the Royal Australian Navy", address by Messrs Bin Tan, Project Engineer, B Brown, Project Co-ordinator and S Heijkeep, Consulting

Engineer, Eglo Engineering Pty Ltd.

27 September 1988

Plant visit and technical meeting, Southwark Brewery of the South Australian Brewing Co Ltd., Thebarton. A tour was undertaken of these modern processing and handling facilities currently being extended.

13 January 1988

Technical meeting "Investigation of marine casualties" by A F Harrold covering the statistical occurrence of marine casualties, together with case histories.

The Annual Dinner was held on 21 November 1987, at the Walker's Arms Hotel, Walkerville, and was very well supported with a most enjoyable evening being had by all in attendance. A social get-together was held on 5 May 1988 at St Paul's Restaurant in the City and here again, this venue proved ideal for some good fellowship and exchange of ideas amongst members and their wives.

Throughout the year, at the forementioned technical meetings, the branch was again privileged to have most informative and capable speakers who presented papers on the current and future trends in the marine and industrial fields, with a good response from members and guests at question times clearly demonstrating the interest generated by the speakers.

## Sydney

### Technical Meetings:

28 October 1987

"Salvage in the Australian region" film and discussion by B Maroc, Howard Smith Industries

18 -20 January 1988

Bicentennial Maritime Symposium/Exhibition

24 February 1988

"The development of the CABOS marine sewage treatment plant for discharge into the North American Great Lakes system" by G Mitchell, retired vice-President, Misener Shipping Ltd

23 March 1988

"William the Fourth" by A L Budd, President A/NZ Division

24 April 1988

"Confessions of a fuel valve repairer" by P and J Meredith, Directors, Neptune Engineering

25 May 1988

"The desirability and conceptual design of mobile airfields for Australian defence purposes" by R Tomans, Superintending Naval Architect, Garden Island Dockyard

22 June 1988

"Woodward marine governors" by R Vinton, Sales & Service Representative, Woodward Governor Co.

28 July 1988

"The FFG propulsion control systems trainer" by Warrant Officer I Midgley, OIC FFG PCS Trainer, Garden Island Dockyard

24 August 1988

"Training of marine engineers" by J J Seaton, Head of Engineering School, Australian Maritime College

28 September 1988

"Application of integrated logistic support" by L Prandolini, ILS Engineer, Cockatoo Dockyard.

### Social Activities

6 November 1987

Annual Dinner, guest of honour - Sir Eric Neal, Chief Commissioner, of Sydney City Council

19 July 1988

Dinner & Show, Ensemble Theatre - "Time & Time Again", Alan Ayckbourn's play

4 September 1988

Combined golf day with Newcastle branch at Wyong Golf Club.

### Prizes and Awards

C Joseph

G I D Hutcheson Memorial Prize for the most improved student at the Sydney Technical College

Graeme Evans

R A Fenwick Award for the best Part A, First Class Engineers Certificate at Sydney Technical College

N Graham

Award for the highest pass for First Class Engineers Certificate at the Sydney Technical College

M J Patman

W W Marriner Memorial Award for best academic record in Year 1 of Bachelor of Science (Marine Engineering) Course at Australian Maritime College.

### Bicentennial Maritime Symposium/Exhibition

The symposium commenced with the opening ceremony being performed by His Excellency Air Marshall Sir James Rowland, Governor of the State of New South Wales: Professor P T Fink gave the Keynote Address. This set the scene for an excellent forum for discussion on the latest developments in the maritime world.

All papers were of a high technical standard, but the one that invoked most discussion was "BIBO-a new shipping concept put into practice". Another feature was a recommendation for establishment of a Naval Design Agency, the advocates claiming that such an organisation could start with a design to meet naval requirements for a Tier 3 (surveillance) vessel.

The highlight of the symposium was the Symposium Dinner held in the Roundhouse at the University: the Guests of Honour being The Governor-General, Sir Ninian Stephen and Lady Stephen.

Mr R J Hoy, Director of TNT Shipping and Development opened the Exhibition. The standard of display was very high while the material on display reflected the latest in marine technology.

### "Workhorses in Australian Waters"

Another bicentennial project was the publication of the book "Workhorses in Australian Waters" launched by Sir Eric Neal, Chief Commissioner of Sydney County Council, on 14 December 1987. The research and preparation of drafts for the book was a mammoth task undertaken over a period of 4 years. The branch is grateful to those members who unselfishly contributed their time and knowledge to the project.

### Other Activities

The W W Marriner Memorial Trust Fund made a donation of \$2000 to the IMarE RNLI Lifeboat Appeal.

XPO Exhibitions of Chatswood invited the branch to sponsor the Australian International Marine Trade Fair to be held at the Sydney Convention and Exhibition Centre, Darling Harbour on 2-4 May 1989. Arrangements are being planned to man the stand. In association with the Fair a 1-day symposium "Training for ships of the future" is being organised by the Company of Master Mariners of Australia and the branch. Invitations have been dispatched to potential authors and publicity will be released as soon as the programme has been prepared.

### Western Australia

Ten meetings were held, eight at the Flying Club Fremantle, one at Australian Shipbuilding Industries and one on the premises of Corrocoat Australia. Papers delivered were of a good standard and covered a wide variety of topics. Continuing with past practice a buffet meal was served at the conclusion of the meetings, and it was pleasing to see so many members remained for what is a social occasion.

Two prizes were given by the branch for excellence in marine engineering. The recipients were: S Lloyd Allen, Fremantle Marine College of TAFE, O Jones, Technical Extension Division TAFE. Both prizes were presented by the Chairman of the branch at each college prize giving ceremony.

The branch took part in the annual seafarers service in St Johns Church Fremantle, the Hon Secretary leading the congregation in a prayer for the guidance of designers,

builders and engineers. Next year being the Centenary of the Institute the branch made a gift to the youth of Western Australia of a cadetship for a ten day voyage on board the Sail Training Ship Leeuwin. The sail training association provided a short list of five underprivileged youths from which the committee will select the cadet.

Programme of Meetings held:

18 November 1987

"Separation an art or a science" by D Allanach, Manager, Alfa Laval Engineering

8 March 1988

"Evolution and development of the fully azimuthing drive" by B Black, Director, Aquamaster Pty Ltd

16 March 1988

"Design of a self righting sea rescue vessel" by J Black, Technical Manager, Precision Marine Holdings Pty Ltd

10 May 1988

"Direct Injection and the two stroke engine" by R Davies, Research Engineer, Orbital Engineering Co

23 May 1988

Visit to Australian Shipbuilding Industries, inspection of a 57 metre tuna fishing vessel.

15 June 1988

"FLIP and other Spar buoy developments" by Professor F Spiess, Director of Marine Resources, University of California

20 July 1988

"The marine support facility development in Cockburn Sound" by D Pickett, Senior Project Officer, Technology and Industry Authority WA

17 August 1988

"Maintenance surveys using lube oil analysis" by A Lenke, Chief Marine Engineer, Mobil Oil Australia

20 September 1988

Mr N Hawkins, Manager, Corrocoat Aust Pty Ltd "Applications of flake filled resins covering the repair of components damaged by corrosion and erosion."

### Auckland

The branch programme for the year included the following lectures:

8 October 1987

Annual General Meeting followed by two films on "The conversion of two gas turbine vessels to diesel electric".

11 November 1987

"Propeller repairs supported by a video on Stone Manganese propellers" by W Carrigan Propeller Services (NZ) Ltd.

13 May 1988

"Recent developments in water jet propulsion for small craft" by G Davison, Hamilton Jets

7 July 1988  
"Corrosion problems in shipbuilding and marine engineering" by G Page

8 September 1988  
A panel discussion on marine propeller problems. Panel members: B C Carrigan, Propeller Services Ltd, L Boulton, Department of Scientific and Industrial Research, C Olliver, Auckland Harbour Board.

9 September 1988  
By invitation of the Naval Architectural Group to hear a technical paper by Dr J Th Ligtelign, Head of Ship Powering Department, Maritime Research Institute, Netherlands. Subject: Some developments in lines fairing, calculation of the flow round ships (with and without free surface), performance predications for all kinds of vessels and propulsion systems. Propellers and related problems (manufacture, cavitation, vibration, noise etc.)

### South Island

Meetings were held as follows:  
18 November 1987 A.G.M.

6 July 1988  
Technical meeting "Cathodic protection" by D McCormick, Wilson Walton International in Australia.

6 August 1988  
Technical visit to inspect the mechanical services at the new Park Royal Hotel, Christchurch

26 August 1988  
Technical visit to HMNZS Monowai at Lyttelton to inspect the hydrographic equipment, accommodation, bridge and engine room. This visit was the first in conjunction with the Master Mariners Association.

29 September 1988  
Technical visit to Air New Zealand N.D.T. Department at No. 1 Hanger, Harewood Road. Inspection of Boeing 737 and two Hercules C130 aircraft under repair. The tour was conducted by J Duncan of Air New Zealand when members also had the opportunity to see the various methods of NDT used, including the new Video Probe 2000 for crack detection. This meeting was also attended by members of the Master Mariners Association and members from the Diagnostic Engineers Association.

### Wellington

During the year the branch held eight technical meetings. The subjects covered were "Coal burning in New Zealand", "Metal spray deposition", "Re-engining the GTV 'Iron Curtis'", "Naval issues" by the defence spokesman for the opposition, "Japanese management", "Water in recreation", "Job satisfaction and the

personality of Merchant Navy officers" and "Lloyd's - international risk takers". Additionally a family day was held at the Tokomaru steam museum when members, families and friends attended. The smell of steam and cylinder oil and the whine of a Weir's pump brought back memories to the "steam men" amongst those attending.

### Branches

#### Cork

21 October 1987  
Lectures by three branch members:  
"Piping design and practice" by M P Duggan  
"Modern Boiler Repair" by M J O'Halloran  
"Maritime near-misses - a regional view" by K P O'Mahony.  
A lively discussion followed each paper.

17 March 1988  
AGM & lecture. A short video session followed on the interaction of vessels in close proximity.

18 April 1988  
Lecture meeting in co-operation with the Master Mariner's Association "Marine disasters" by Dr Baker, a London metallurgist. A very interesting lecture covering metal failure in marine disasters.

#### Hong Kong Joint

A delegation of joint branch members were guests of the Guangzhou Branch of CSNAME from 22 to 23 September 1988 being part of the continuing liaison with CSNAME of the PRC.

The Annual Ball was held on 19 November 1987 with Ms Wensley, Australian Consulate General, as Guest of Honour.

The following technical meetings were held:

22 October 1987  
"The M C engines - general development trends and operational experience to date" by P Srensen, Marketing Manager, MAN B&W Copenhagen.

18 November 1987  
"First aid for fuel" by M Evans, Area Manager, Central Asia Unitor/Perolin Marine.

9 February 1988  
"The Sulzer RTA engines - service experience and the theory of cylinder liner wear" by P E Held, Managing Director, Sulzer (Hong Kong) Ltd and Y M Wong, Head, Technical Department, Sulzer (Hong Kong) Ltd.

21 April 1988  
"Review of lubricating oil equipment and system design", by L Hillborg and P J Sheppard, Regional Manager, Marine and Power Engineering, Alfa-Laval (Hong Kong) Ltd

22 April 1988  
"The role of the Salvage Association - Gulf casualties" by A Galloway, Chief Surveyor and Deputy General Manager, Salvage Association, London.

19 May 1988  
"Certificate of competency of seafarers in accordance with IMO RES STCW" by Mr Pottier, Bureau Veritas

1 September 1988  
"Marine structures"  
by Professor D Faulkner, Department of Naval Architecture and Ocean Engineering, University of Glasgow, UK.

22 September 1988  
"A fully integrated computer assisted tender preparation scheme" by W Hills, Department of Naval Architecture and Shipbuilding, University of Newcastle, UK.

A group, including members of the NI and HKIE, were given a guided tour of HMS Ark Royal when the Task Force was in Hong Kong in September 1988. The joint branch were hosts in the Officers' Mess, HMS Tamar, after the visit and thereafter there was an outing to Lamma for a sea food meal.

#### Malaysia Joint

The Joint Branch in Malaysia was officially inaugurated by the Hon. Deputy Minister of Transport, Y B Datin Paduka Hajjah Zaleha Ismail in February 1988. The IMarE President, Mr A F Harrold was also present on this occasion.

The following technical papers and talks were presented during the year:

2 February 1988  
Paper "The investigation of marine casualties" by A F Harrold

23 March 1988  
Talk "Jet propulsion technology" by B Svenson

24 June 1988  
Talk "Protective coatings for marine and offshore structures" by Hooi Weng Yin

9 September 1988  
Paper "Computer modelling of offshore power systems" by M R E Ellis.

#### Malta Joint

The joint branch activities for the year were as follows:

27 January 1988  
Paper "Insurance for engineers including indemnity insurance" by B Taylor, Mediterranean Insurance Brokers

25 February 1988  
21st Annual General Meeting.

4 May 1988

Paper "Psychology of stress in engineering and management"  
by Fr. A Darmanin S J

10 June 1988

Paper "The investigations of marine casualties" by A F Harrold

11 June 1988

Annual Dinner and Dance held at the Phoenicia Hotel. Guest of Honour was Mr A F Harrold, President IMarE, accompanied by Mrs Harrold.

### **Nigeria**

The first technical meeting for the year was held on 12 December 1987 on "Marine casualty/accident investigation in Nigeria" by I Olu Akinsoji, District Head, Maritime Division, Federal Ministry of Transport. The Annual General Meeting followed on 20 February 1988. On 21 February 1988, the Annual Dinner was held at Eko Holiday Inn, Victoria Island, Lagos, at which a talk on "Marine technology: its role and strategic importance in the maritime industry and national development of Nigeria" was presented by D U Ekwenna, Lecturer, Federal University of Technology. It was a very enjoyable occasion. The Chairman at the Dinner was Professor Folabi Olumide, the then Vice-Chancellor of the Lagos State University.

Technical meetings and lectures held were as follows:

5 March 1988

"Selection of economic operating speeds for merchant fleet ships and alternatives to slowing down measures" by O Y Ajagbe, Chief Engineer Officer, NNSL Ltd

2 April 1988

"Global maritime distress and safety systems" by A S Tijani, NNSL Ltd

23 April 1988

"Safety of ships" by I O Akinsoji, District Head, Maritime Division, Federal Ministry of Transport

14 May 1988

"Classification and certification societies" by E I Ogbonnaya, Surveyor, Lloyd's Register of Shipping.

The branch was invited to participate in a 3-day seminar on "Maritime safety, education and training" organised by the Federal Ministry of Transport and Aviation, 16-18 December 1987 and the international seminar and workshop, 16-20 May 1988 on Maritime search and rescue" organised jointly by the IMO/UNDP and the Federal Ministry of Transport.

### **Singapore**

The branch held its 30th Annual General Meeting in December 1987. The 8th biennial seminar on "The economic ship"

was jointly organised with the Society of Naval Architects and Marine Engineers 2-4 December 1987. 17 papers were presented, nine of which came from overseas.

Eight technical talks were organised, two of which were joint with SNAME. The talks included one on "International maritime organisation and national administration" presented by Dr J Cowley, the Institute's Past President, when he re-visited Singapore in October 1988.

Three book prizes were awarded to Polytechnic students for their outstanding academic performance in marine engineering, shipbuilding and offshore engineering.

A committee member was appointed to look into the feasibility of contributing towards 'Marine Engineering Education'. Much foundation work has been done and the branch contributions could be in the form of a series of non-classroom type of lectures or specialised talks related to marine engineering to be conducted for tertiary students and newcomers to the marine industry.

### **Eastern USA**

The following technical meetings have been held:

6 October 1987

"Selection of power plants for ferries" by I Rolih, Chairman and Technical Director, George C Sharp Inc and A Chin, President, George C Sharp, Inc.

9 December 1987

Joint meeting with SNAME and New York Port Engineers "The repowering of the QE-2, the largest diesel power plant afloat" by W Oehlers, Regional Sales Manager, MAN B & W Diesel.

24 February 1988

"The US Line ECONSHIP construction program" by A George, Senior Associate, C R. Cushing and Company Inc.

25 May 1988

"Superconductivity for marine electrical propulsion" by M Superczynski, Head of Electrical Machinery Technology, David Taylor Research Center.

## Officers of the Institute

### Past Presidents

- \* 1889 Asplan Beldam
- \* 1890 G. W. Manuel, R.N.R.
- \* 1891 Peter Denny, LL.D.
- \* 1892 Rt.Hon. Lord Kelvin, G.C.V.O., LL.D., F.R.S.
- \* 1893 Sir W. H. White, K.C.B., LL.D., F.R.S.
- \* 1894 Sir Thomas Sutherland, G.C.M.G.
- \* 1895 Eng. Vice-Admiral Sir A. J. Durston, K.C.B.
- \* 1896 Sir Edwin Sandys Dawes, K.C.M.G.
- \* 1897 Sir J. Fortescue Flannery, Bt., M.P.
- \* 1898 John Inglis, LL.D.
- \* 1899 Rt. Hon.Lord Inchcape, G.C.M.G., K.C.S.I., K.C.I.E.
- \* 1900 Colonel J. M. Denny
- \* 1901 John Corry, J.P.
- \* 1902 D. J. Dunlop
- \* 1903 Sir John Gunn, Kt.
- \* 1904 The Hon. Sir Charles A. Parson, O.M., K.C.B.
- \* 1905 Rt. Hon. Lord Bearstead of Maidstone
- \* 1906 Rt. Hon. Viscount Pirrie, K.P., P.C.
- \* 1907 Sir James Knott, J.P.
- \* 1908 James Denny, J.P.
- \* 1909 James Dixon (died July 1909)
- \* 1909 James Denny, J.P. (from August 1909)
- \* 1910 Sir David Gill, K.C.B., D.Sc., F.R.S.
- \* 1911 His Grace the Duke of Montrose, K.T., C.B., C.V.O.
- \* 1912 Summers Hunter, C.B.E.
- \* 1913 Sir Thomas L. Devitt, Bt.
- \* 1914-15 Sir Archibald Denny, Bt., LL.D.
- \* 1916 Sir James Mills, K.C.M.G.
- \* 1917 R. H. Green
- \* 1918 J. T. Milton, D.Sc.
- \* 1919-20 Rt. Hon. Viscount Weir of Eastwood, G.C.B., P.C., D.L.
- \* 1921 Rt. Hon. Lord Maclay of Glasgow, P.C., LL.D., J.P.
- \* 1922 Eng. Vice-Admiral Sir George G. Goodwin, K.C.B., LL.D.
- \* 1923 Rt. Hon. Earl Howe, C.B.E., P.C.
- \* 1924 Sir Westcott S. Abell, K.B.E., M.A.
- \* 1925 Rt. Hon. Lord Inverforth, P.C.
- \* 1926 Rt. Hon. Lord Kyslant of Carmarthen, G.C.M.G.
- \* 1927 Eng. Capt. W. Onyon, M.V.O., R.N.
- \* 1928 Sir Alan G. Anderson, G.B.E.
- \* 1929 Eng. Vice-Admiral Sir Robert B. Dixon, K.C.B., D.Eng.
- \* 1930 Lieut. Cdr. Sir August B. T. Cayzer, Bt., R.N.
- \* 1931 Sir Frederick E. Rebbeck, K.B.E., D.Sc., D.L., J.P.
- \* 1932 Cdr. Sir C. W. Craven, Bt., O.B.E., R.N.
- \* 1933 Sir S. George Higgins, C.B.E.
- \* 1934 John H. Silley, O.B.E.
- \* 1935 Sir Maurice E. Denny, Bt., K.B.E., S.B., J.P.
- \* 1936 Rt. Hon. Lord Craigmyle of Craigmyle
- \* 1937 Sir Stephen J. Pigott, D.Sc., J.P.
- \* 1938 Sir E. Julian Foley, C.B.
- \* 1939-41 Sir Percy E. Bates, Bt., G.B.E.
- \* 1942 Rt. Hon. Lord Mottistone, P.C., C.B., C.M.G., D.S.O.
- \* 1943-44 Eng. Vice-Admiral Sir George Preece, K.C.B.
- \* 1945 Sir William Crawford Currie, C.B.E.
- \* 1946-47 Sir Amos L. Ayre, K.B.E., D.Sc.
- \* 1948 Cdr. Sir Robert Micklem, C.B.E., R.N.
- \* 1949 Rt. Hon. Lord Rotherwick
- \* 1950 Sir A. Murray Stephen, M.C., B.A.
- \* 1951 S. F. Dorey, C.B.E., D.Sc., Wh.Ex., F.R.S.
- \* 1952 Rt. Hon. Lord Howard De Walden
- \* 1953 Sir Gilmour Jenkins, K.C.B., K.B.E., M.C.
- \* 1954-55 H. A. Silley
- \* 1956 Sir Donald F. Anderson
- \* 1957 Sir Ronald Garrett
- \* 1958 E. L. Denny, B.Sc.
- \* 1959 Sir William Wallace, C.B.E., LL.D.
- 1960 Rt. Hon. Viscount Simon, C.M.G.
- \* 1961 C. C. Pounder
- 1962 His Royal Highness the Prince Philip, Duke of Edinburgh
- 1963 Sir Nicholas Cayzer, Bt.
- \* 1964 A. Logan, O.B.E.
- \* 1965 Sir John Hunter, C.B.E., B.Sc., J.P.
- \* 1966 Sir Stewart MacTier, C.B.E., M.A.
- \* 1967 Vice-Admiral Sir Frank Mason, K.C.B.
- 1968-69 F. B. Bolton, M.C.
- 1970 M. A. Sinclair Scott, C.B.E.
- 1971 R. Munton, C.B.E., B.Sc.
- 1972 Vice-Admiral Sir George Raper, K.C.B.
- 1973 Dr. S. Archer
- \* 1974 Dr. A. W. Davis

1975 T. Kameen  
 1976 G. Victory  
 1977 G. McNee, B.Sc.  
 1978 D. H. Alexander, O.B.E., F.C.G.I., M.Sc.,  
 Wh.Sc.  
 1979 J. McAfee  
 1980 L. D. Trenchard  
 1981 J. McNaught  
 1982 Commander E. C. Pidgeon, R.N.  
 1983-84 B. Hildrew, C.B.E., M.Sc.  
 1985-86 Dr. J. Cowley, C.B.E.

### Past Chairmen of Council

\* 1889-97 J. H. Thomson  
 \* 1898 S. C. Sage  
 \* 1899-00 A. Boyle  
 \* 1901-06 W. C. Roberts  
 \* 1907-08 W. Lawrie  
 \* 1909-12 J. T. Milton, D.Sc.  
 \* 1913-14 J. Hallett  
 \* 1915 George Adams  
 \* 1916 H. A. Ruck-Keene  
 \* 1917 A. Boyle  
 \* 1918 J. Shanks  
 \* 1919 B. P. Fielden  
 \* 1920 James M. Dewar  
 \* 1921 H. A. Ruck-Keene  
 \* 1922 J. Clark  
 \* 1923 James Carnaghan  
 \* 1924 B. P. Fielden  
 \* 1925 F. M. Timpson  
 \* 1926 R. S. Kennedy  
 \* 1927 A. H. Mather  
 \* 1928 W. E. Farenden  
 \* 1929 R. T. Wilson (to 2nd September) then  
 J. Nicol  
 \* 1930-31 H. J. Vose  
 \* 1932 James Carnaghan  
 \* 1933 S. N. Kent  
 \* 1934 J. Hamilton Gibson, O.B.E., M.Eng.  
 \* 1935 T. R. Thomas, B.Sc.  
 \* 1936 H. S. Humphreys  
 \* 1937-38 R. Rainie, M.C.  
 \* 1939 A. F. C. Timpson, M.B.E.  
 \* 1940 F. W. Youldon  
 \* 1941 T. A. Crompton  
 \* 1942 H. J. Wheadon  
 \* 1943 J. Calderwood, M.Sc.  
 \* 1944 S. A. Smith, M.Sc.  
 \* 1945 W. Lynn Nelson, O.B.E.  
 \* 1946 J. A. Rhyas  
 \* 1947 W. Sampson  
 \* 1948 R. K. Craig, C.B.E.  
 \* 1949 A. Logan, O.B.E.  
 \* 1950 G. Ormiston, C.B.E.  
 \* 1951 James Turnbull, O.B.E.  
 \* 1952 R. W. Cromarty  
 \* 1953 Stewart Hogg, O.B.E.  
 \* 1954 J. P. Campbell  
 \* 1955 W. J. Ferguson, M.Eng.  
 \* 1956 T. W. Longmuir  
 \* 1957 Rear-Admiral F. E. Clemitson, C.B.  
 1958 R. Munton, C.B.E., B.Sc.  
 \* 1959 R. Cook, M.Sc.  
 \* 1960 W. R. Harvey, O.B.E.  
 \* 1961 B. P. Ingameills, C.B.E.  
 \* 1962 Vice-Admiral Sir Frank Mason, K.C.B.  
 1963 Cdr. F. M. Paskins, O.B.E., R.D., R.N.R.  
 1964 W. Young, C.B.E.  
 \* 1965 H. N. Pemberton  
 \* 1966 R. R. Strachen, C.B.E.  
 1967 J. McAfee  
 \* 1968 Captain W. S. C. Jenks, O.B.E., R.N.  
 1969 B. Hildrew, M.Sc.  
 \* 1970 H. E. Upton, O.B.E.  
 1971 W. McClimont, B.Sc.  
 \* 1972 R. L. Rawlings

### Past Honorary Treasurers

\* 1889 J. W. Domoney  
 \* 1890-96 Robert Leslie  
 \* 1897-00 F. W. Shorey  
 \* 1901-03 G. W. Kidd  
 \* 1904-05 James Blake  
 \* 1906-18 A. H. Mather  
 \* 1919-55 A. Robertson, C.C.  
 \* 1955-66 J. Calderwood, M.Sc.  
 \* 1966 H. J. Wheadon  
 \* 1966-72 R. Cook, M.Sc.  
 1973-79 J. McNaught  
 1980-81 G. McNee, B.Sc.

\* Deceased

### Honorary Vice-Presidents

T. W. Bunyan, BSc  
 Lt. Cdr. J. H. Coles, R.N.  
 G. Den Bakker  
 W. McLaughlin, M.B.E.  
 Cdr. F. M. Paskins, R.N.  
 W. H. Sampson  
 J. Sloan, M.Sc.  
 A. H. Stobbs  
 J. B. Thompson  
 Rear Admiral R. A. Isaac, R.N. (for the Royal  
 Navy)

### Honorary Fellows

H.R.H. the Prince Philip, Duke of Edinburgh,  
 K.G., K.T., G.B.E.  
 J. S. Robinson, M.A. (Cantab)

### Council and Committees as at 30 September 1988

#### Council

##### President

A. F. Harrold, BSc.

##### Deputy Presidents

Prof. R. V. Thompson, Ph.D.  
 Rear Admiral M. A. Vallis, C.B.

##### Honorary Treasurer

J. McNaught

##### Vice-Presidents

C. Archer, B.Sc.  
 A. L. Budd  
 C. A. Creber, M.Sc.  
 D. R. Cusdin  
 I. J. Day  
 R. M. Duggan, M.A.  
 Dr. M. Falcus  
 C. R. Ford, M.Sc.  
 G. Geddes  
 G R Hodge, B.A.  
 R. F. Munro  
 S. W. Nicholls  
 P. S. Rosseter  
 E. A. Stokoe  
 A. J. Wharton

##### Fellows of Council

J. M. Brown, M.A.  
 G. G. Connor, O.B.E.  
 A. Galloway  
 E. E. Hopkins, M.B.E.  
 M. V. Jones, B.Sc. (Hons)  
 J. A. Lazaras  
 E. D. Mackie, O.B.E.  
 D. McKinlay, O.B.E.  
 Dr. P. A. Milne  
 K. J. Overton  
 Cdr. E. C. Pidgeon, O.B.E., R.N.  
 S. G. Pratt  
 T. Raylor  
 A. Rose, M.Sc.

C. A. Sinclair  
 D. W. Smith  
 H. V. Spawls  
 S. Speed  
 I. Thorpe, M.Phil.  
 H. E. Tune  
 G. J. A. White, R.D., B.Sc.  
 R. J. Whyte  
 A. G. Wood  
 J. C. Woodhead

### Members of Council

D. C. Armstrong  
 M. S. Bradley, B.Sc.  
 P. M. Low, B.Sc.  
 M. Robertson

### Associate Members of Council

R. Beams  
 T. F. Floyd  
 J. S. Hook (casual vacancy)  
 D. J. Jack  
 Lt. Cdr. F. Muscroft, R.N.  
 C. J. Taylor

### Committees

#### Council Advisory and Policy

Prof. R. V. Thompson, Ph.D.  
 (Chairman)  
 R. Beams  
 M. S. Bradley, B.Sc.  
 C. A. Creber, M.Sc.  
 D. R. Cusdin  
 R. M. Duggan, M.A.  
 C. R. Ford, M.Sc.  
 G. R. Hodge, B.A.  
 E. D. Mackie, O.B.E.  
 D. McKinley, O.B.E.  
 J. McNaught  
 R. F. Munro  
 Cdr. E. C. Pidgeon, O.B.E., R.N.  
 S. Speed  
 C. J. Taylor  
 Rear Admiral M. A. Vallis, C.B.  
 A. J. Wharton  
 A. G. Wood  
 J. C. Woodhead

#### Council Advisory Groups

##### Office Bearers

Prof. R. V. Thompson, Ph.D.  
 (Chairman)  
 C. A. Creber, M.Sc.  
 D. R. Cusdin  
 R. M. Duggan, M.A.  
 D. McKinlay, O.B.E.  
 J. McNaught  
 S. Speed  
 C. J. Taylor  
 Rear Admiral M. A. Vallis, C.B.

##### By-Laws

Rear Admiral M. A. Vallis, C.B.  
 (Chairman)  
 G. R. Hodge, B.A.  
 J. McNaught  
 R. F. Munro  
 A. J. Wharton  
 J. C. Woodhead

##### Overseas Affairs

Prof. R. V. Thompson, Ph.D.  
 (Chairman)  
 G. Geddes  
 G. R. Hodge, B.A.  
 J. McNaught  
 Cdr. E. C. Pidgeon, O.B.E., R.N.  
 P. S. Rosseter  
 Rear Admiral M. A. Vallis, C.B.

## Engineering Council Affairs

Rear Admiral M. A. Vallis, C.B. (Chairman)  
D. C. Armstrong  
E. Barnett  
R. Beams  
D. J. Capel  
T. F. Floyd  
G. R. Hodge, B.A.  
Dr. R. A. Johns, D.I.C.  
Cdr. A. C. Moore, R.N.  
H.V. Spawls  
Prof. R. V. Thompson, Ph.D.  
A. J. Wharton

## Joint Liaison (RINA/IMarE)

A. F. Harrold, B.Sc. (Chairman)  
G. R. Hodge, B.A.  
P. M. Low, B.Sc.  
S. W. Nicholls  
Prof. R. V. Thompson, Ph.D.

## Centenary

Prof. R. V. Thompson, Ph.D. (Chairman)  
Dr. J. Cowley C.B.E.  
A. Galloway  
A. F. Harrold, B.Sc.  
D. J. Jack  
J. McNaught  
Lt. Cdr. G. Pollard, R.N.  
P. S. Rosseter  
J. E. Sloggett, B.Sc.  
Rear Admiral M. A. Vallis, C.B.

## Marine Management (Holdings) Limited

### Board

A. F. Harrold, B.Sc. (Chairman)  
Dr. J. Cowley, C.B.E.  
I. J. Day  
G. Geddes  
J. McNaught  
R. F. Munro  
P. S. Rosseter  
Prof. R. V. Thompson, Ph.D.  
H. E. Tune  
Rear Admiral M. A. Vallis, C.B.  
P. M. Buckton (Secretary)

## Administration

### Building Maintenance

H. E. Tune (Chairman)  
J. Hicks  
J. Heighway  
R. F. Munro  
J. McNaught  
Cdr. E. C. Pidgeon, O.B.E., R.N.  
S. Speed  
E. A. Stokoe

### Social Events

P. S. Rosseter (Chairman)  
G. Geddes  
Rear Admiral P. G. Hammersley, C.B., O.B.E.  
M. V. Jones, B.Sc. (Hons)  
S. G. Pratt  
S. Speed  
A. J. Wharton

## Learned Society, Members' Services and Professional Affairs

### Technical Papers and Conferences

P. M. Low, B.Sc. (Chairman)  
J. M. Brown, M.A.  
G. G. Connor, O.B.E.  
K. Harvey  
J. A. Lazaras  
I. Livingstone

Lt. Cdr. F. Muscroft, R.N.  
K. J. Overton  
Cdr. C. T. Reader, R.N.  
D. W. Rennie, O.B.E.  
D. W. Smith  
Capt. J. R. Smith, R.N.  
N. S. Swindells  
R. F. Thomas  
I. Thorp, M.Phil.  
H. E. Tune  
Rear Admiral M. A. Vallis, C.B.  
M. R. Vincent  
A. G. Wood

## Joint Offshore Group (IMarE/RINA)

M. H. Addington, B.Sc. (Hons) (Chairman)  
L. O. Christensen  
J. A. Davis  
N. Marguerie  
A. Rose, M.Sc.  
D. W. Smith

## Marine Electrical Engineering - (Sub-Committee)

D. St. J. Seigne (Chairman)  
W. T. Blythe  
J. H. Davidson  
B. Fowler  
A. J. Mitchell  
G. S. Penrose  
M. Robertson  
J. K. Robinson M.Sc.  
J. F. Simpson, B.Sc.  
G. E. Woodliff

## Membership

S. W. Nicholls. (Chairman)  
M. H. Addington, B.Sc. (Hons)  
R. Beams  
E. E. Hopkins, M.B.E.  
Cdr. W. H. J. Kelly, R.N.  
G. D. Kinrade  
Lt. Cdr. F. Muscroft, R.N.  
T. Raylor  
A. Rose, M.Sc.  
T. Ruxton, B.Sc. (Hons)  
R. B. Siggers  
R. J. Whyte

## Professional Affairs and Education

G. R. Hodge, B.A. (Chairman)  
E. Barnett  
Dr. M. Falcus  
W. Findlay  
Dr. R. A. Johns, D.I.C.  
B. McDearmid  
Cdr. A. C. Moore, R.N.  
Lt. Cdr. Pollard, R.N.  
A. C. Smith  
Prof. R. V. Thompson, Ph.D.  
Rear Admiral M. A. Vallis, C.B.  
G. J. A. White, R.D., B.Sc.

## Secretariat

### Secretary:

J. E. Sloggett, B.Sc., C.Eng., F.I.Mar.E.,  
F.R.I.N.A., F.I.C.S., C.Dip.A.F.

### Technical Secretary:

D. M. Long, C.Eng., F.I.Mar.E.

### Assistant Secretary (Administration):

P. M. Buckton, M.Inst.A.M., M.B.I.M.

### Assistant Secretary (Finance):

P. Kingston, M.B.I.M.

### Professional Affairs Manager:

G. J. Roy, C.Eng., F.I.Mar.E., M.R.I.N.A.

### Information Services Manager:

G. A. Watts, M.Sc., F.I.M., C.Eng., M.B.C.S.

## Technical Information Officer:

T. K. Norledge, C.Eng., F.I.Mar.E.

## Editor, M.E.R.:

J. Butchers

## Advertisement Manager:

M. Stansell

## Conference Centre Manager:

M. J. Wilkinson, B.A. (Hons).

## Accounts Office Manager:

K. M. Turner

## Representatives on External Organisations

## Engineering Council

### Executive Committee (Group 5)

Rear Admiral M. A. Vallis, C.B.  
D. C. Armstrong (Alternate)  
E. Barnett (Alternate)  
R. Beams (Alternate)  
D. J. Capel (Alternate)  
T. F. Floyd  
G. R. Hodge, B.A.  
Dr. R. A. Johns, D.I.C.  
Cdr. A. C. Moore, R.N.  
H.V. Spawls (Alternate)  
Prof. R.V. Thompson, Ph.D. (Alternate)  
A. J. Wharton  
D. M. Long (Secretariat)

### Board for Engineers Registration

Cdr. A.C. Moore, R.N.

### Standing Committee on Professional

### Institutions - Nominations Affairs Board

A. J. Wharton

### Chartered Engineering Institutions

### Technical Affairs Board

J. C. Woodhead

### London Central ECRO

J. C. Woodhead

### Engineering Institutions Librarians Committee

T. K. Norledge (Secretariat)

### Engineering Institutions Schools Liaison Staff Co-ordinating Committee

G. Roy (Secretariat)

### Young Engineers Liaison Committee

I. Hodgson

### Parliamentary Maritime Group

Prof. R.V. Thompson, Ph.D.  
Rear Admiral M. A. Vallis, C.B.

### Parliamentary Group for Engineering Development

Prof. R. V. Thompson, Ph.D.

### Parliamentary and Scientific Committee

Dr. J. Cowley, C.B.E.

### British Gear Association

Prof. R. V. Thompson, Ph.D.

### British National Committee for International Engineering Affairs

B. Hildrew, C.B.E., M.Sc.

### British National Committee for E.C.O.R. (Engineering Committee for Oceanic Resources)

S. W. Nicholls

### **Underwater Engineering Group**

A. Fowler

### **Offshore Engineering Society**

D. W. Smith

### **Watt Committee on Energy**

C. Archer, B.Sc.

### **British Nuclear Energy Society**

G. S. Scones

### **British National Committee of the International Council of Combustion Engines (CIMAC)**

J. H. Gilbertson, M.B.E.

### **Joint British Committee on Stress Analysis**

C. M. R. Willis

J. S. Carlton (Alternate)

### **Lloyd's Register of Shipping Technical Committee**

C. J. Taylor

H. E. Tune

### **Cranfield Institute of Technology Court**

Vice Admiral Sir Ted Horlick, K.B.E.

### **Bath University Court**

W. H. Sampson

### **Surrey University Court**

M. S. Bradley, B.Sc.

### **British Standards Institution**

BS799 Review of existing standard on oil burning equipment  
Dr. R. C. F. Dye (non-member)  
(University of Manchester)

EPC/37/8 Treatment of Water for Boilers  
D. R. Evans

GEL/3/2 Ships Electrical Cables  
H. Rush

PSE/4 Identification of pipelines, cables and conduits etc.  
J. G. Kersey

PEL/93 Electrical Installations in Ships  
H. Rush

SME Shipbuilding and Marine Standards Committee  
D.M. Long (Secretariat)

SME/10 Ships Propellers and Shafts  
T. A. Wilkin

WMS/3/4 Maintenance/Terotechnology - including handbooks  
K Grant

### **Institution of Electrical Engineers**

IEE Ships Regulations Committee on Electrical and Electronic Equipment  
H. Rush

### **Institution of Structural Engineers**

Advanced Composite Materials and Structures  
W. H. J. Kelly

### **Branch Honorary Officers**

#### **United Kingdom**

##### **Aberdeen Maritime:**

Chairman: W. Reid

Hon. Sec.: A. D. Bissett, "Two Hoots", Coalford, Drumock, Banchory, Aberdeen, AB3 3AR.

#### **Devon and Cornwall Joint:**

Chairman: J. R. Corless

Hon. Sec.: J. H. Reynolds, 12 Clevedon Park Avenue, Plymouth, Devon, PL2 3HB.

#### **Kingston-upon-Hull and Humberside Area:**

Chairman: E. Barnett

Hon. Sec.: C. M. Thomson, 7 High Croft, Cherry Burton, Beverley, North Humberside HU17 7SG.

#### **North East Coast:**

Chairman: E. A. Stokoe.

Hon. Sec.: B. McDearmid, 22 Woodlands Drive, Cleadon, Sunderland, South Tyneside, SR6 7TR.

#### **Northern Ireland Joint:**

Chairman: D. M. McIlroy

Hon. Sec.: E. E. Hopkins, M.B.E., 41 Kingsway Park, Cherryvalley, Belfast, BT5 7TW, Northern Ireland.

#### **North Midlands:**

Chairman: T. L. Botto

Hon. Sec.: G. Wilkinson, "Inglemont", 229 Tinshill Road, Cookridge, Leeds, LS16 7BU.

#### **North West England:**

Chairman: D. Baker.

Hon. Sec.: E. C. Knowles, 153 Brookdale Avenue South, Greasby, Upton, Wirral, L49 1SP.

#### **Scottish Branch:**

Chairman: I. E. Burrows.

Hon. Sec.: J. F. Cooper, Lloyd's Register of Shipping 95, Bothwell Street, Glasgow G2 7JA

#### **South East England:**

Chairman: R. H. Lewis,

Hon. Sec.: J. R. Parker, 15 Greenwich Close, Maidstone, Kent.

#### **Southern Joint:**

Chairman: J. R. Cousins.

Hon. Sec.: R. W. Coney, 36 Bramdean Road, Thornhill, Southampton, SO2 5HU.

#### **South Wales:**

Chairman: P. D. Thomas.

Hon. Sec.: P. Durham, "Newgarth", 4 The Broad Shoard, Cowbridge, Glamorgan, CF7 7DB.

#### **Western Joint:**

Chairman: A. J. Latchford

Hon. Sec.: A. M. Tucker, 42 Bridge House, Grosvenor Bridge Road, Bath, BA1 6BH.

#### **West Midlands:**

Chairman: G. G. Connor.

Hon. Sec.: I.H. Livingstone, Riverside House, Cherry Lane, Great Bridgeford, Stafford, ST18 9SL.

#### **Overseas**

##### **Australia/New Zealand Division:**

President: A. L. Budd.

Div. Sec.: K. M. Murray, 96 Champion Road, Gladesville, N.S.W. 2111, Australia.

##### **Canberra:**

Chairman: Capt. G. T. Polding.

Hon. Sec.: R. Wilson, 11 Apsley Place, Kaleen, ACT 2617, Australia.

##### **Newcastle, NSW:**

Chairman: J. J. Woolley.

Hon. Sec.: G. K. Stacey, P. O. Box 865, Newcastle, N.S.W. 2300, Australia.

#### **Queensland:**

Chairman: Lt. Cdr. T. Davies.

Hon. Sec.: C. N. Williams, 40 Bevelin Court, Albany Creek, Queensland 4053, Australia.

#### **South Australia:**

Chairman: S. R. Thomas

Hon. Sec.: J. C. Nealy, 12 Greenham Avenue, Magill, South Australia 5072, Australia.

#### **Sydney:**

Chairman: T. A. Mascarenhas.

Hon. Sec.: L. J. Prandolini, 58 Melba Drive, East Ryde, N.S.W. 2113, Australia.

#### **Victoria/Tasmania:**

Chairman: A. H. Taylor.

Hon. Sec.: P. Bossen, 71 Waimarie Drive, Mount Waverley, Victoria 3149, Australia.

#### **Western Australia:**

Chairman: L. I. Eckerman.

Hon. Sec.: A. McAllister, 4 Phipps Street, Bicton, West Australia 6157, Australia.

#### **Auckland:**

Chairman: C. P. Wickham.

Hon. Sec.: C. S. Harnett, 5 Leys Crescent, Remuera, Auckland 5, New Zealand.

#### **South Island:**

Chairman: B. T. Carr.

Hon. Sec.: K. H. Newman, 30 Kaiwara Street, Lower Cashmere, Christchurch 2, New Zealand.

#### **Wellington:**

Chairman: D. Skinner.

Hon. Sec.: K. L. D'Souza, 56 Monaghan Avenue, Karori, Wellington, New Zealand.

#### **Branches**

##### **Cork:**

Chairman: J. J. Mooney.

Hon. Sec.: P. McGlade, "Mountain Lodge", Goggins Hill, Ballinhassig, Co. Cork, Eire.

##### **Dublin:**

Chairman: A. G. Bolger

Hon. Sec.: J. Lennox, 71 St. Fintan's Road, Sutton, Co. Dublin, Eire.

##### **Eastern USA:**

Chairman: J. Tiratto.

Hon. Sec.: Prof. M. D. Burghardt, c/o Dept. of Engineering, Hofstra University, Hempstead, N.Y. 11550, USA.

##### **Greek Joint:**

Chairman: D. J. Nicholas.

Hon. Sec.: P. S. Katsoulis, Drakou 8, Piraeus, Greece.

##### **Hong Kong Joint:**

Chairman: K. J. Taylor

Hon. Sec. E. A. Bruges, Nutek Systems Ltd., Unit L, 10/F, Yue Cheung Industrial Centre, 1-3 Wong Chuk Yeung Street, Fo Tan, Shatin, NT, Hong Kong.

##### **Malaysia Joint:**

Chairman: P. Fedoroff.

Hon. Sec.: Chee, Kwok Choon, 24 Jalan 55 21/14, Damansara Utama, 47400 Petaling Jaya, Selangor, West Malaysia, Malaysia.

##### **Malta Joint:**

Chairman: Mr N. Baldacchino.

Hon. Sec.: C. Schembri, Moonshadow, Sta. Maria tax-Xaghra, L/O Naxxar, Malta.

**Netherlands:**

Chairman: Capt. P. Van Staalduinen.  
Hon. Sec.: A. Baljet, Draviedijk 4, 4706 LD  
Roosendall, The Netherlands.

**Nigeria:**

Chairman: C. O. Aderiye.  
Hon. Sec.: A. C. C. Peters, P.O. Box 6205,  
Surulere, Lagos, Nigeria.

**Pakistan:**

Chairman: Rear Admiral M. I. Arshad.  
Hon. Sec.: M. H. K. Khaishgi, 15th Floor, Block  
6, P.E.C.H.S., Karachi, Pakistan.

**Singapore:**

Chairman: Au Hon Tuck.  
Hon. Sec.: J. C. F. Low, Nanyang Technological  
Institute, School of Mech. & Prod. Engineering,  
Nanyang Avenue, Singapore 2263, Republic of  
Singapore.

**Sri Lanka:**

Chairman: T. Gunasekera.  
Hon. Sec.: T.W.A. Wickramasinghe, 53/4  
Jayasinghe Road, Kirallapone, Colombo 6, Sri  
Lanka.

**United Arab Emirates:**

Chairman: M.A.L. Baraka.  
Hon. Sec.: J. F. Hewson, Bureau Veritas,  
P.O. Box 9110, Dubai, U.A.E.

**Corresponding Members****Argentina:**

G. Escalente, Libertad 1662, 1016 Buenos Aires,  
Argentina.

**Brazil:**

I. Felczak, Rua Nascimento Silva, Apt. 170-CO.  
01, Ipanema - 22421, Rio de Janeiro.

**Calgary, Canada:**

G. T. Reader, Head of Mechanical Engineering,  
The University of Calgary, 2500 University  
Drive NW, Calgary, Alberta T2N 1N4, Canada.

**Chile:**

J. Pinochet, P.O. Box 1060, Viña del Mar, Chile.

**Ecuador:**

Angel Varga Zuniga, P.O. Box 2129 (Urdesa),  
Guayaquil, Ecuador.

**Ghana:**

I. K. Wilmot, Wiltex Ltd., P.O. Box 623, Tema,  
Ghana.

**Indonesia:**

D. Prananta, Lloyd's Register of Shipping,  
Oriental Building, 51 Jln. M. H. Thamrin, Jakarta  
103350, Indonesia.

**Israel:**

S. Tesler, Lloyd's Register of Shipping, 24 Jaffa  
Road, P O Box 33089, Haifa, Israel.

**Kuwait:**

F. A. Al-Boutie, P. O. Box 3296, Hawalli, 32033  
Hawalli, Kuwait.

**Papua New Guinea:**

D. G. Watkins, Electricity Commission, P.O.Box  
1105, Boroko, Papua New Guinea.

**The Philippines:**

V. Papageorgiou, Lloyd's Register of Shipping,  
Room 315, PPL Building, 1000-1046 United  
Nations Avenue, Ermita, Manila, The Philippines  
2802.

**Portugal:**

C. A. W. Rennie, Avenida D. Carlos L44-6, 1200  
Lisboa, Portugal.

**Syrian Arab Republic:**

W. H. Khandji, P.O. Box 1180, Lattakia, Syrian  
Arab Republic.

**West Germany:**

J. M. Hughes, Beinschilling Stift 20, 2000  
Hamburg 55, West Germany.

**West Indies:**

F. Menzies, 25/26 Edinburgh Gardens, Chagua-  
nas, Trinidad, West Indies.

## **GUILD OF BENEVOLENCE**

During the year the Committee held nine meetings. Eighteen new applications for assistance were reported and financial help was granted to eight. This brings the total of recipients receiving direct financial assistance from the Guild to forty three. Apart from monetary aid the Guild provided help in many other forms; from sheltered and residential accommodation to advising members on where to obtain professional help.

The death of Mr E R Chamberlain in June 1988 was reported with very deep regret. He had been an active member of the Committee for more than thirty years and would be sadly missed by his colleagues for his loyal and devoted service to the Guild.

Mr E D Stephenson and Mr S W Raydon were elected to the Committee. Main topics of discussion during the year were alterations to the Guild Rules and the possibility of the Guild administering The Marine Engineers Benevolent Fund (a registered charity very similar to the Guild of Benevolence) following the retirement of their secretary.

Guild House suffered severe damage in the October 1987 gales. 11 repairs and replacements have been carried out and the Home continued to operate smoothly and efficiently with a very happy atmosphere under the direction of Mrs Hearth. The number of residents increased during the year and it was hoped to achieve a maximum occupancy in the near future. Members are encouraged to visit the Home by appointment to ensure the Matron is available to show visitors around.

The Committee wish to express their thanks and appreciation to the branches for their help and assistance in raising large sums of money at their annual dinner dances. Also for the generous donations to the Conversazione tombola, resulting in a record sum of £3,391 being raised for the Guild.

The Guild is once again indebted to The New Moorgate Trust Fund, J S Frazer Trust and King Georges Fund for Sailors for their financial assistance.

## **Guild Committee**

Mr S Speed (Chairman)  
Mr J McNaught (Hon. Treasurer)  
Mr J E Sloggett, BSc. (Secretary)  
Mr F Bown  
Mr P M Carr  
Mr R F Clarke, BSc. (Hons)  
Mr C A Creber, MSc.  
Mr J F R Ellison  
Mr L J Glover  
Mr R O P Greig  
Mr N Harrison  
Mr G R Hodge, B.A.  
Mr R Munton, C.B.E., B.Sc.  
Mr S G Pratt  
Mr S W Raydon  
Mr E D Stephenson  
Mr A F White

Mrs R Webster (Clerk)

**S.Speed  
(Chairman)**