

# THE INSTITUTE OF MARINE ENGINEERS

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PATRON : HER MAJESTY THE QUEEN

## TRANSACTIONS



Volume 75, 1963



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*Chairman:* T. W. LONGMUIR. *Committee:* CAPT. H. F. ATKINS, D.S.O., D.S.C., R.N., E. BURNETT, M.B.E., E. R. CHAMBERLAIN, S. G. CHRISTENSEN, F. J. COLVILL, C.B.E., W. R. HARVEY, O.B.E., N. LYALL, W. McCLIMONT, B.Sc., D. M. REID, H. B. SIGGERS, R. R. STRACHAN, C. O. TABBITT, C. H. TAYLOR-COOK, B.Sc.(Eng.), W. YOUNG, C.B.E.

### PAPERS AND TRANSACTIONS

*Chairman:* R. COOK, M.Sc. *Committee:* S. ARCHER, M.Sc., T. W. BUNYAN, B.Sc., J. CALDERWOOD, M.Sc., M. W. DUNHAM, CAPTAIN P. T. HOATH, M.B.E., R.N., E. G. HUTCHINGS, B.Sc., R. E. KNOWLES, M.B.E., J. B. MAIN, R. MUNTON, B.Sc., CDR. F. M. PASKINS, O.B.E., R.D., R.N.R., CDR. E. H. W. PLATT, M.B.E., R.N., J. H. REA, G. M. SELLAR, B.Sc., S. A. SMITH, M.Sc.

### PUBLICITY AND ADVERTISING

*Chairman:* J. CALDERWOOD, M.Sc. *Committee:* F. D. CLARK, R. COOK, M.Sc., CDR. F. M. PASKINS, O.B.E., R.D., R.N.R., G. RIDLEY WATSON, B.Sc.

### SOCIAL EVENTS

*Chairman:* STEWART HOGG, O.B.E. *Committee:* E. R. CHAMBERLAIN, CDR. F. J. CORNEY, O.B.E., R.N., R. K. CRAIG, C.B.E., W. J. L. FOREMAN, ENG. CAPT. W. A. GRAHAM, O.B.E., R.N.R., CDR. H. T. MEADOWS, D.S.C., R.D., R.N.R., P. S. ROSSETER, CDR. J. WHITE, D.S.C., R.N., W. YOUNG, C.B.E.

## The Engineering Institutions Joint Council

*Institute Representatives:* VICE-ADMIRAL SIR FRANK MASON, K.C.B., COMMANDER F. M. PASKINS, O.B.E., R.D., R.N.R., J. STUART ROBINSON, M.A.

## Joint Panel on Nuclear Marine Propulsion

*Institute of Marine Engineers:* VICE-ADMIRAL SIR FRANK MASON, K.C.B. (*Chairman of Panel*),

R. COOK, M.Sc., CDR. F. M. PASKINS, O.B.E., R.D., R.N.R., H. N. PEMBERTON, H. N. E. WHITESIDE.

*Royal Institution of Naval Architects:* J. M. MURRAY, M.B.E., B.Sc., SIR VICTOR SHEPHEARD, K.C.B.

*Institution of Engineers and Shipbuilders in Scotland:* A. W. DAVIS, D.Sc., P. W. THOMAS, B.Sc.

*North East Coast Institution of Engineers and Shipbuilders:* PROFESSOR L. C. BURRILL, M.Sc., Ph.D., G. YELLOWLEY.

*Secretary to the Panel:* J. STUART ROBINSON, M.A.

*Representatives of the Joint Panel on the British Nuclear Energy Society*  
J. M. MURRAY, M.B.E., B.Sc., H. N. E. WHITESIDE

## REPRESENTATIVES ON EXTERNAL ORGANISATIONS

<p>Association of Special Libraries and Information Bureaux</p> <p>British National Committee for Non-destructive Testing</p> <p>City and Guilds of London Institute: Advisory Committee on Shipbuilding, Ship Joinery, Yacht and Boat Building</p> <p>City of Liverpool College of Technology: Mechanical, Marine and Production Engineering Advisory Committee</p> <p>College of Technology, Portsmouth: Engineering Advisory Committee</p> <p>East Ham Technical College: Engineering Advisory Committee</p> <p>Engineering Institutions Examinations Standing Committee for Part I</p> <p>Institution of Electrical Engineers: Ship Electrical Equipment Regulations Committee</p> <p>Institute of Welding</p> <p>International Institute of Refrigeration: Standing Committee</p> <p>Joint British Committee for Stress Analysis</p> <p>Joint Committee on Materials and Their Testing of Technical Institutions and Societies in Great Britain</p> <p>Lloyd's Register of Shipping: Technical Committee</p> <p>North Western Regional Advisory Council for Further Education (Nautical Advisory Committee)</p> <p>Northern Advisory Council for Further Education (Advisory Committee for Engineering)</p> <p>Poplar Technical College, Board of Governors</p> <p>Riversdale Technical College, Board of Governors</p> <p>Royal Naval Reserve (General Service) General Committee</p> <p>Southampton Technical College, Engineering and Science Advisory Committee</p> <p>Southampton University: Advisory Committee, Department of Marine Engineering</p> <p>Sunderland Technical College: Advisory Committee for Electrical Engineering, Mechanical and Marine Engineering and Naval Architectural Departments</p> <p>United Kingdom Automation Council</p> <p>Welsh College of Advanced Technology, Cardiff</p>	<p>J. STUART ROBINSON, M.A. J. McAFEE</p> <p>C. H. TAYLOR-COOK, B.Sc.(Eng.)</p> <p>G. KEENAN</p> <p>G. M. KENNEDY R. M. DUGGAN, M.A.</p> <p>C. H. TAYLOR-COOK, B.Sc.(Eng.)</p> <p>A. N. SAVAGE W. RENNIE K. C. HALES, M.A. T. W. BUNYAN, B.Sc.</p> <p>R. COOK, M.Sc. A. LOGAN, O.B.E., and H. J. WHEADON</p> <p>LT. CDR. G. KENWORTHY-NEALE, R.N.R.</p> <p>A. W. JONES, B.Sc. D. G. ALCOCK T. KAMEEN F. D. CLARK</p> <p>C. W. PAUL, M.B.E.</p> <p>ENG. CAPT. W. A. GRAHAM, O.B.E., R.N.R.</p> <p>W. R. JONES H. E. UPTON, O.B.E., and J. STUART ROBINSON, M.A. D. SKAE</p>
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### BRITISH STANDARDS INSTITUTION

<p>H. E. BEDFORD H. J. WHEADON</p> <p>W. McCLIMONT, B.Sc. A. N. SAVAGE</p> <p>S. J. JONES, B.Sc.</p> <p>J. HASTIE</p> <p>A. N. SAVAGE A. S. MINTON</p> <p>E. F. BARTON</p> <p>E. F. J. BAUGH R. W. CROMARTY R. A. COLLACOTT, B.Sc., Ph.D.</p> <p>E. G. HUTCHINGS, B.Sc. W. RENNIE E. BURNETT, M.B.E. W. RENNIE</p> <p>T. A. RUSH W. R. HARVEY, O.B.E. S. ARCHER, M.Sc.</p> <p>J. ROGERSON J. LIDDELL, B.Sc. F. P. BELL</p> <p>J. CALDERWOOD, M.Sc. J. ROGERSON</p> <p>T. D. SHILSTON</p>	<p>CHE/18/2 Metallic Finishes (Quality)</p> <p>C/37 Boiler Water Tests</p> <p>C/37/2 Methods of Sampling Waters Used in Steam Generation</p> <p>C/37/3 Methods of Boiler Water Treatment</p> <p>C/37/2/2 Sampling of Steam</p> <p>ELE/1/10 Marine Motors and Generators</p> <p>ELE/3/2 Ships' Cables</p> <p>ELE/3/21 Heat-resisting Cables</p> <p>ELE/28 Electrical Fans</p> <p>ELE/28/2 Methods of Measurement and Test of Fans</p> <p>ELE/32/6 Radio Interference Suppression in Marine Installations</p> <p>ELE/51/5 Marine Transformers</p> <p>FSB/1 Definitions and Tests for Fire Resistance</p> <p>GLC/4 Observation and Gauge Glasses for Pressure Vessels</p> <p>GLC/5 Safety Glass for Marine Purposes</p> <p>INE/4/5 Ships' Refrigeration Thermometers</p> <p>INE/6 Pressure Gauges</p> <p>INE/8 Revolution Indicators and Records</p> <p>INE/6/2 Pressure Gauges (Drafting)</p> <p>ISE/- Iron and Steel Industry Standards</p> <p>ISE/6 Steel Castings</p> <p>ISE/15 Iron and Steel for Shipbuilding</p> <p>ISE/31 Wrought Steels</p> <p>ISE/31/1 Carbon Steels</p> <p>ISE/31/2 Alloy Steels</p> <p>ISE/35/9 Austenitic Cast Irons</p> <p>ISE/62 Steels for Pressure Vessels</p> <p>MEE/- Mechanical Engineering Industry Standards</p> <p>MEE/6/19 Gear Hobbing Machines</p> <p>MEE/11/4 Marine Flanges</p> <p>MEE/12 Chains and Fittings</p> <p>MEE/12/6 Anchor Cables</p> <p>MEE/13 Engine Testing Fittings</p> <p>MEE/17/7 Gears for Turbines and Similar Drives</p> <p>MEE/21 Air Receivers</p> <p>MEE/21/1 Solid Drawn Air Receivers</p>	<p>T. D. SHILSTON</p> <p>C. WINYARD J. CALDERWOOD, M.Sc.</p> <p>J. LIDDELL, B.Sc.</p> <p>S. MATHEWS S. J. JONES, B.Sc.</p> <p>E. F. J. BAUGH J. G. ROBINSON</p> <p>W. O. HAMILTON J. CALDERWOOD, M.Sc.</p> <p>N. MACLEOD G. F. GATWARD</p> <p>R. W. CROMARTY J. G. ROBINSON T. D. SHILSTON</p> <p>S. ARCHER, M.Sc.</p> <p>J. CALDERWOOD, M.Sc. CDR. F. M. PASKINS, O.B.E., R.D., R.N.R. R. MUNTON, B.Sc. J. STUART ROBINSON, M.A.</p>	<p>MEE/21/2 Riveted Air Receivers</p> <p>MEE/21/3 Welded Steel Air Receivers</p> <p>MEE/29 Pump Tests</p> <p>MEE/32 Engineering Symbols and Abbreviations</p> <p>MEE/34 Land Boilers</p> <p>MEE/34/1 Cylindrical Boilers</p> <p>MEE/34/2 Water Tube Boilers</p> <p>MEE/34/6 Boiler Mountings and Fittings</p> <p>MEE/34/8 Pipes and Piping</p> <p>MEE/34/9 Boiler and Superheater Tubes</p> <p>MEE/34/15 Corrugated Furnaces for Cylindrical Boilers</p> <p>MEE/36 Shaft Couplings</p> <p>MEE/39 Compressors, Exhausters and Fans</p> <p>MEE/39/4 Fans for General Purposes</p> <p>MEE/63 Ships' Side Scuttles and Frames</p> <p>MEE/81 Valves for Gas, Water and Steam</p> <p>MEE/81/3 General Purpose Valves</p> <p>MEE/81/3/1 General Purpose Valves (Drafting)</p> <p>MEE/84 Ignition Equipment for Compression Ignition Engines</p> <p>MEE/91 Jointing Materials and Compounds</p> <p>MEE/93 Lubricating Nipples Used for Grease Lubrication in Machinery and Vehicles</p> <p>MEE/119 Plain Bearings</p> <p>MEE/123 Diesel and Gas Engines</p> <p>MEE/131 Dished Ends for Tanks and Pressure Vessels</p> <p>MEE/158 Mechanical Balancing of Rotating Machinery</p> <p>MEE/158/2 Mechanical Balancing of Rotating Machinery (Marine Applications)</p> <p>MEE/161 Engine Conventions and Definitions</p> <p>P/139 Prevention of Corrosion</p> <p>PTC/2 Fuel Oils</p> <p>UDC/269 Universal Decimal Classification Panel</p>
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# Annual Report of the Council for 1963

## ENGINEERING INSTITUTIONS JOINT COUNCIL

The Joint Council has met regularly during the year which has been one of great activity. Urgent matters for consideration have arisen concerning membership of the Joint Council and in consequence a Membership Committee was set up and met for the first time on 2nd October 1963. Vice-Admiral Sir Frank Mason, K.C.B. is a member of this Committee.

In December the representatives of the Engineering Institutions Joint Council and of the thirteen constituent members, were invited to meet the Minister for Science to discuss the present and future work of the Joint Council, and the whole matter was examined in the light of a memorandum prepared by the Chairman of the Joint Council. It was proposed in the very near future to petition for a Royal Charter and the Minister said that in order for this petition to go forward, it would be necessary for the members of the Joint Council to satisfy the Privy Council that their standards were sufficiently high to warrant the granting of a Royal Charter. He stated that the minimum qualification for a corporate member of the constituent bodies would be a pass degree of a British University or equivalent standard. It is expected that the Royal Charter, if granted, will bestow on the Joint Council the exclusive right to permit the use of the title of "Chartered Engineer" by corporate members of the constituent institutions.

The need for providing adequate funds for the financing of the Joint Council's work has been carefully considered and it is envisaged that in the course of the next five years or so the Joint Council will have to meet an annual expenditure of about £55,000. It has been estimated that the expenditure to be met during 1964 will be about £25,000 and arrangements are in hand for these funds to be provided. The Institute's portion of this will be £2,000 in the first year and £4,000 subsequently should the Institute's membership be continued.

The Council of the Institute is considering all these matters which, as members will realize, pose a number of difficult and involved problems. Directly and indirectly the difficulties presented are substantial and careful thought must be given to all their aspects. In due course the Council will inform the members of developments.

## VISIT TO CANADA, U.S.A., NEW ZEALAND AND AUSTRALIA BY THE CHAIRMAN OF COUNCIL AND THE SECRETARY

During the months of October and November the Chairman and the Secretary together with their wives visited these countries where they had discussions with members at meetings in St. John's (Newfoundland), Halifax, Toronto, Vancouver, Victoria, New York, San Francisco, Auckland, Wellington, Sydney, Melbourne and Perth. Upon their return a report was submitted to the Council outlining a number of proposals

for the improvement of the Institute's services abroad, which are under discussion by the Council at this time.

During the course of this visit to Canada, the opportunity was taken to attend the first Canadian Division Conference at Ottawa at which the following delegates were present under the Chairmanship of Rear-Admiral J. B. Caldwell, M.B.E., C.D., R.C.N. (Vice-President for Canada):

Mr. T. R. Bradley, St. Lawrence/Ottawa Section.  
Mr. D. G. Champion, Great Lakes Section.  
Cdr. R. W. Edwards, R.C.N., St. Lawrence/Ottawa Section.  
Cdr. H. G. Gillis, C.D., R.C.N., Vancouver Island Section.  
Mr. L. D. MacArthur, St. John's, Newfoundland, Section.  
Mr. L. D. MacBean, Great Lakes Section.  
Mr. R. C. Macklin, St. John's, Newfoundland Section.  
Mr. L. M. Mathers, Atlantic Section.  
Mr. J. McPherson, Vancouver Island Section.  
Mr. R. Rennie, M.B.E., Vancouver Section.  
Mr. H. S. Salt, Atlantic Section.  
Mr. G. W. Stead, Canadian Division Committee.  
Mr. T. M. Pallas, P.Eng., Secretary for Canadian Affairs.

A full report of this Conference appeared in the December issue of the Canadian Supplement. Here again the recommendations emanating from this Conference are under discussion by the Council at this time.

On their return the Chairman and Secretary were very pleased to report to the Council that in their opinion the tour had been very useful. This had been supported by the comments made by many of the members who had been present at the events organized as part of the tour. These had provided for a great number of members the opportunity to participate and most important of all had made it possible for them to meet each other. The reception of the representatives of the Council was everywhere almost overwhelming and they left with the impression of great enthusiasm abroad, which can surely only help substantially to enhance the Institute's position.

## INDIAN NATIONAL COMMITTEE

At the request of the senior members in India the Council has given consideration to the establishment of an Indian National Committee. It has now been decreed desirable to co-ordinate the Sections' work in India and it has been agreed that this Committee should be set up, consisting of the Vice-President for India, Local Vice-Presidents, Corresponding Members, Chairmen of Sections and the Honorary Secretaries of Sections together with the Secretary of the Division, who

## Annual Report of the Council for 1963

will also act as Secretary of the Committee. A quorum will be not less than four members of the Committee and it will meet once or twice a year. In view of the distances involved, arrangements have been made that providing a Resolution in writing is signed by all the members of the Committee, this will be as effective as a Resolution passed at a duly constituted meeting of the Committee.

### SECTIONS

Since the last Annual Report four new Sections have been formed:

Visakhapatnam } included in the Indian Division.  
Delhi }  
Nigeria, based on Lagos  
Auckland

This brings the total number of Sections to thirty-one, ten in the United Kingdom and twenty-one overseas. In addition to these there are the Northern Ireland Panel and the Southern Joint Branch with The Royal Institution of Naval Architects.

Ever since 1948 when the first Sections were formed after the war (there had been earlier unsuccessful attempts at section formation) this movement has continued to flourish. The Sections at home (being amongst the first formed) have become an integral part of the Institute's way of life. Those abroad now take on an even more important role as the membership in these areas rises steadily. It is now about thirty per cent of the total membership—a large proportion by any standard of measurement.

### SPECIAL COMMITTEE ON "THE INSTITUTE AND THE PROFESSIONAL MARINE ENGINEER"

The Council has given a great deal of consideration to the proposal that the Institute should support in some practical manner an educational scheme for marine engineers of a more advanced level than the present Ordinary National Diploma scheme. After a careful investigation of various possibilities it has been decided that a course for a Diploma in Technology in marine engineering should be established at Battersea College of Technology. (These titles may be changed in accepting the proposals of the Robbins Committee). For the initial course, which will start in October 1964, it is proposed that twenty students should be enrolled. The entry requirements will be:

- (i) Ministry of Transport Certificate of Competency together with a good Ordinary National Certificate or Ordinary National Diploma.
- (ii) Five G.C.E. subjects, of which two must be at "A" level. ("A" level subjects required would be Pure Mathematics, or Pure and Applied Mathematics, or Applied Mathematics—one of these together with Physics) "O" level subjects should include English language.

It is anticipated that the selected candidates will be

eligible for State grants in whole or in part and this year the Institute is proposing to set aside a further sum of £10,000 in addition to a similar sum in 1962 in order to help candidates, where necessary, from the Memorial Building Fund.

A notice will appear in the TRANSACTIONS outlining the scheme when final details are settled.

### MEMBERSHIP

The changes in membership are shown in the following table and chart. Once again the number of elections is of the same order as the previous year, which can be taken as an indication that the Institute continues to offer services which are appreciated by members. Whilst this is gratifying it must be no excuse for not considering ways and means by which the Institute's interests can be extended and its value increased.

### CHARITABLE STATUS OF THE INSTITUTE

It is reported that the Institute has been registered by the Charity Commissioners as a Charity under the Charities Act 1960.

### ACCOUNTS

There is an excess of expenditure over income on the General Revenue Account of £8,024 compared with an excess of expenditure for last year of £6,275.

The membership expenditure has increased by £326. The anticipated reduction in the cost of TRANSACTIONS has been off-set by a further fall of £2,865 in advertising revenue. In addition, the cost of the Year Book published biennially has increased resulting in an additional charge of £430 to be met in these accounts. Section expenses have increased by £508. The increase of £2,033 in administration expenses is due mainly to an increase of £1,794 for salaries and pension provisions. There has been a reduction of £648 in investment income, owing to lower interest rates prevailing in 1963 compared with 1962.

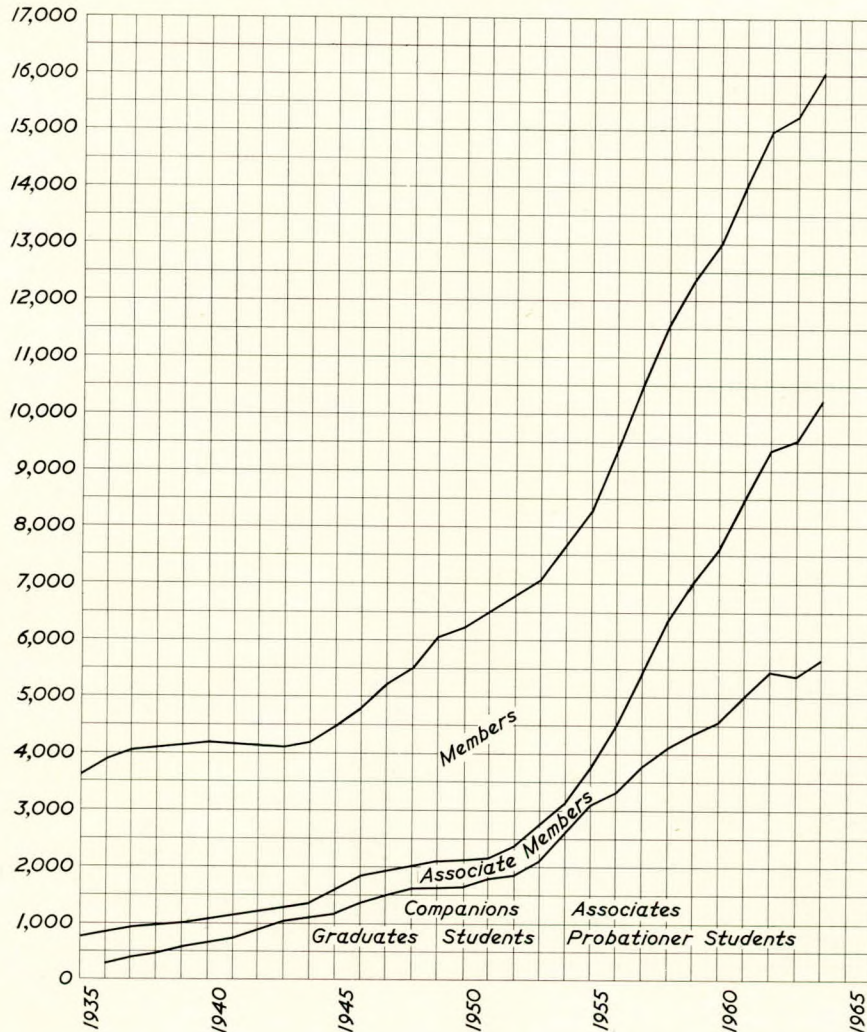
The Memorial Building Revenue Account shows a surplus of £33,092, an increase of £2,947. The registration of the Institute under the Charities Act 1960 has resulted in some relief from rates, which is reflected in these accounts by a payment of £5,887 compared with £7,748 in 1962. The cost of administration and services of the building has increased by £795. The appropriations from the surplus on the Memorial Building Revenue Account amount to £32,000 and note 3 shows the expenditure during the year on the revenue reserve accounts to which appropriations have been made.

During the year the Awards and Prize Funds have been reviewed and some awards have been amalgamated; note 5 shows the new groupings. Arrangements have been made for separate investments to be purchased to cover the whole of the capital value of the Awards and Prize Funds.

GRADE	Total 31st Dec. 1962	Transfer		Elected	Died	Resigned	Lapsed	Total 31st Dec. 1963	Increase or decrease during 1963
		From	To						
Past Presidents	14			1	1			14	
Honorary Members	7							7	
Members	5,657		81	163	66	58	5	5,772	+ 115
Associate Members	4,186	62	149	320	1	25	1	4,566	+ 380
Companions	40			1	3	1		37	— 3
Associates	1,500	33	6	86	5	16		1,538	+ 38
Graduates	1,063	109	56	126	1	9		1,126	+ 63
Students	1,301	58	42	193	1	26	1	1,450	+ 149
Probationer Students	1,457	72		149		29		1,505	+ 48
<b>Totals</b>	<b>15,225</b>	<b>334</b>	<b>334</b>	<b>1,039</b>	<b>78</b>	<b>164</b>	<b>7</b>	<b>16,015</b>	<b>+ 790</b>

# Annual Report of the Council for 1963

## CHART OF MEMBERSHIP



The Council have decided that the excess of expenditure over income which has recurred this year must be met by an adjustment in the subscriptions as it has been decided that the surplus of the Memorial Building Fund should not be used for this purpose. The adjustments proposed are anticipated to provide sufficient revenue to meet the expenditure on the General Revenue Account for the next few years. In addition, adjustments have been made to advertising rates which it is hoped will contribute towards reducing the very large proportion of the membership expenditure attributable to the TRANSACTIONS and other publications.

### DONATION TO ESTABLISH A PRIZE

An anonymous donation has been made to found a prize, under a seven-year covenant, for the purposes of:

- providing biennially, alternately with the Akroyd Stuart Award, an award of at least £50 for a lecture on "The Direct Drive Diesel Engine for the Propulsion of Ships";
- providing annually an award of £10 each to the Sections of the Institute situated at Newcastle upon Tyne, Glasgow and Liverpool, being the main centres of shipbuilding and marine engineering, for a paper on "The Direct Drive Diesel Engine for the Propul-

sion of Ships" whenever such a paper meriting the award has been presented to the Section:

- providing an award not exceeding £100 for a lecture aimed at increasing the status of the Technical Design Engineer in the Marine Engineering Industry. The frequency of delivery shall be at the discretion of the Council, provided that it shall not be more frequently than every three years and not less frequently than every five years.

The Council is very grateful for the donation that has made such an award possible. A first award will not be made for a few years until the covenanted income has built up the necessary amount.

### CONFERENCES

The Institute was associated with the 10th International Towing Tank Conference (London) 1963 which was held in London from 4th to 11th September, inclusive.

A Conference on Education and Training for Automation and Computation organized by the British Conference on Automation and Computation was held at the College of Aeronautics, Cranfield, from 27th to 29th March. Mr. J. McNaught represented the Institute.

# Annual Report of the Council for 1963

## SUMMARY OF THE YEAR'S ACTIVITIES

### COUNCIL

At their meeting on 15th May 1963 the Council elected Cdr. F. M. Paskins, O.B.E., R.D., R.N.R., as Chairman of Council and Mr. W. Young, C.B.E., as Vice-Chairman for the 1963/64 session.

### VICE-PRESIDENT

Captain S. Z. Hasnain, P.N., has been elected Vice-President for Pakistan.

### HONORARY VICE-PRESIDENT

Rear-Admiral H. G. H. Tracy, D.S.C., has been elected Honorary Vice-President for the Royal Navy, following the resignation of Rear-Admiral R. S. Hawkins, C.B.

### LOCAL VICE-PRESIDENTS

The following have been appointed during the year:

*Bristol:* F. C. Tottle, M.B.E., *vice* D. W. Gelling (deceased).

*Delhi:* Rear-Admiral Daya Shankar, I.N. (new appointment).

*Halifax, Nova Scotia:* Capt. F. Harley, R.C.N. (new appointment).

*Lagos:* Cdr. N. A. Pearse, M.B.E., Royal Nigerian Navy (new appointment).

*St. John's, Newfoundland:* R. A. Harvey, *vice* H. S. Salt (resigned on removal).

*Visakhapatnam:* H. C. Raut, B.Sc. (new appointment).

### CORRESPONDING MEMBER

The following was appointed a Corresponding Member:

*Greenock:* J. A. Conn, *vice* J. R. Duncan (resigned).

### PAPERS READ

Date	Title	Author
8th January	"Machinery Induced Vibrations"	A. J. Johnson, Ph.D., B.Sc. (Eng.), A.C.G.I., and W. McClimont, B.Sc. (Member)
22nd January	"The Application of Planned Maintenance to Steam Turbine Tankers"	J. Scott, D.S.C. (Member) and H. Vickerstaff (Member)
12th February	* "Some Aspects of Noise Reduction in Merchant Ships"	R. Cook, M.Sc. (Member of Council) and N. Fleming, M.A.
26th February	"Recent Developments in Denny-Brown Ship Stabilizers"	C. C. Mitchell, O.B.E., B.Sc., and H. Volpich, B.Sc.
9th April	"Shore Trials of Marine Steam Turbine Machinery"	T. W. F. Brown, C.B.E., D.Sc., S.M., A.R.T.C. (Member)
23rd April	"Progress in Automation"	R. Munton, B.Sc. (Member of Council), J. McNaught (Member) and J. N. Mackenzie (Member)
7th May	† "Design Study for Propulsion Machinery Incorporating a Boiling Water Reactor, as Tendered in 1960"	A. W. Davis, D.Sc. (Member)
1st October	Presidential Address	Sir Nicholas Cayzer, Bt.
8th October	"The Application of Free-piston Gas Turbine Machinery to Marine Propulsion"	C. W. Herbert (Member) and G. F. Milne, B.Sc. (Associate Member)

\* Read before a Joint Meeting of the Institute and the Royal Institution of Naval Architects.

† Read before a meeting of the Joint Panel on Nuclear Marine Propulsion.

Date	Title	Author
22nd October	"Cargo Handling Equipment for Dry Cargo Vessels"	A. S. Brown, M.B.E., and P. T. Beniston
12th November	"Some Factors Influencing the Life of Marine Crankshafts"	S. Archer, M.Sc. (Member)
10th December	"Some Results Obtained from a Fuel Oil Water Washing Plant in Studies of the Fouling of Marine Superheaters"	W. Tipler, M.A.

### LECTURES ON OPERATIONAL RESEARCH

Three lectures on Operational Research were held at The Memorial Building on 23rd October, 6th and 20th November. The purpose of these short lectures was to give to engineers and management at all levels an up to date appreciation of the rapidly expanding new science of operational research techniques. An ever increasing range of management problems can now be solved by the use of such techniques as linear programming, queueing theory and replacement theory. In addition, operational research techniques have been designed to enable more efficient solutions to be obtained to problems of, for example, quality control, plant layout and materials handling.

The lectures included case studies from a wide range of industries including examples from the field of marine engineering. The lectures were under the direction of Mr. J. Murdoch, B.Sc., A.R.T.C., Head of the Statistics and Operational Research unit at The College of Aeronautics, Cranfield.

### PAPERS PUBLISHED IN THE TRANSACTIONS

Month	Title	Author
January	"Machinery Installations of Guided Missile Destroyers and General Purpose Frigates"	Cdr. J. M. C. Dunlop, R.N. (Associate Member) and Cdr. E. B. Good, R.N. (Member)
February	"The Design and Development of Two-drum Marine Boilers"	E. G. Hutchings, B.Sc. (Member)
March	"Progress and Development in Naval Propulsion Gears, 1946-62"	Cdr. P. D. V. Weaving, R.N. (Member) and W. H. Sampson (Member)
April	"Machinery Induced Vibrations"	A. J. Johnson, Ph.D., B.Sc. (Eng.), A.C.G.I., and W. McClimont, B.Sc. (Member)
May	"The Application of Planned Maintenance to Steam Turbine Tankers"	J. Scott, D.S.C. (Member) and H. Vickerstaff (Member)
June	"Some Aspects of Noise Reduction in Merchant Ships"	R. Cook, M.Sc. (Member of Council) and N. Fleming, M.A.
July	"Recent Developments in Denny-Brown Ship Stabilizers"	C. C. Mitchell, O.B.E., B.Sc., and H. Volpich, B.Sc.
August	"Shore Trials of Marine Steam Turbine Machinery"	T. W. F. Brown, C.B.E., D.Sc., S.M., A.R.T.C. (Member)
September	"Progress in Automation"	R. Munton, B.Sc. (Member of Council), J. McNaught (Member) and J. N. Mackenzie (Member)

## Annual Report of the Council for 1963

Month	Title	Author	Month	Title	Author
October	Education Group Discussion: Some Observations on the White Paper—Better Opportunities in Technical Education	G. Sutton, C. J. Cutler and A. W. Bell, B.Sc. (Member)	August	§§ "Principles of Automatic Controls and Application in Mercantile Marine"	K. S. Subramaniam, B.Sc.(Eng.)(Member)
November	Presidential Address	Sir Nicholas Cayzer, Bt.	November	"A Brief Study of Alternating Electric Current for Marine Application"	G. Hair (Member)
	"Dissolved Gases in Boiler Water"	R. J. Saunders (Associate Member) and J. D. Bates, B.Sc. (Eng.)		§§ "Official Sea Trials"	B. Ananda (Associate Member)
December	"The Application of Free-piston Gas Turbine Machinery to Marine Propulsion"	C. W. Herbert (Member) and G. F. Milne, B.Sc. (Associate Member)	<p>JOURNAL OF THE JOINT PANEL ON NUCLEAR MARINE PROPULSION</p> <p>One issue of the Journal has been published and contained the following papers in addition to nuclear engineering abstracts from the technical press:</p> <p>"Operating Experience with Nuclear Propulsion: Start-up and Initial Operation of n.s. <i>Savannah</i>" by J. W. Landis.</p> <p>"Design Study for Marine Propulsion Machinery Incorporating a Boiling Water Reactor, as Tendered in 1960" by A. W. Davis, D.Sc.</p> <p>A report of the discussion on "A Preliminary Report of an Investigation of the Effects of Ship Motion on Boiling Water Reactors" by G. L. West, Jr., B.S.E., and H. Nishihara, M.S.E., was also included.</p>		
PAPER PUBLISHED IN THE SUPPLEMENT TO THE TRANSACTIONS					
July and August	‡ "Recent and Notable Ship Fires and Explosions"	A. S. Minton (Associate)	<p>STUDENT ACTIVITIES</p> <p>14th January—Lecture on "The Marine Steam Reciprocating Engine" by G. Yellowley (Member)</p> <p>4th February—Lecture on "The Modern Marine Steam Turbine" by D. M. V. Parkinson, M.V.O. (Member).</p> <p>28th February—Lloyd's Register Lecture for Students, "Nuclear Submarines" by R. Baker, O.B.E., R.C.N.C., followed by a visit to the Ship Hydrodynamics Laboratory, Feltham, and the National Physical Laboratory, Teddington, on 1st March.</p> <p>4th March—Panel Meeting—"Watchkeeping and Maintenance in a Steamship".</p> <p>15th March—Social evening—film programme.</p> <p>15th June—Visit to m.v. <i>Tintagel Castle</i>.</p> <p>7th October—Technical film show and introductory talk by F. D. Clark (Member).</p> <p>4th November—Lecture on "The First Principles of the Diesel Engine and its Development for Use in Marine Work" by G. S. Mole, B.Sc. (Associate Member).</p> <p>9th December—Lecture on "Marine Diesel Engines" by E. W. Cranston, Wh.Sc. (Member).</p>		
PAPERS PUBLISHED IN THE CANADIAN DIVISION SUPPLEMENT					
March	§ "Torsional Vibrations Some Actual Marine Problems and Solutions"	T. W. Spaetgens, B.A.Sc., P.Eng.			
June	"The Present Status of the Free-piston Pulse Combustion Gas Turbine for Marine Propulsion"	R. G. Fuller, P.Eng. (Member)			
September	¶ "Stern Gear Design for High Powered Single-screw Tankers and Bulk Carriers"	G. T. R. Campbell, P.Eng. (Member) and N. V. Laskey, B.Sc.			
December	** "Current Theory and Practice in Marine Boiler Water Treatment"	B. G. Walker			
	†† "Marine Salvage"	Capt. C. F. J. Finch, R.N.R.			
PAPERS PUBLISHED IN THE INDIAN DIVISION SUPPLEMENT					
February	‡‡ "Design Trends in Deck Machinery of Cargo Ships"	S. K a s t h u r i (Member)			
May	§§ "Theory of Centrifugal Separation and Means of Comparing Two Centrifuges of Different Dimensions with Each Other" and "Centrifugal Separation of Marine Fuel and Lubricating Oils"	B. Zachariassen, Mech.E.  L. Norling, Mech.E.			
<p>‡ Paper read before the Institution of Fire Engineers on 28th September 1961.</p> <p>§ Read before a meeting of the Great Lakes Section on 30th November 1961.</p> <p>   Read before a meeting of the St. Lawrence/Ottawa Section on 25th May 1962.</p> <p>¶ Read before a meeting of the Atlantic Section on 16th February 1962.</p> <p>** Read before a meeting of the St. Lawrence/Ottawa Section on 23rd November 1962.</p> <p>†† Read before a meeting of the St. Lawrence/Ottawa Section on 19th April 1963.</p> <p>‡‡ Read at the Shipping and Shipbuilding Conference in Bombay in December 1961.</p> <p>§§ Read before Joint Meetings of the Bombay Section of the Institute and the Institution of Marine Technologists on 9th November 1962, 19th March 1963 and 24th July 1963, respectively.</p>					
PAPERS AND ARTICLES PUBLISHED IN THE STUDENT TRANSACTIONS					
	<i>Issue</i>			<i>Title</i>	
January			January	Presidential Address of His Royal Highness The Prince Philip, Duke of Edinburgh.	
			February	"Notes on Propeller Manufacture, with Particular Reference to Accuracy" by D. M. Harris.	
			February	"The First Principles of the Diesel Engine and its Development for Use in Marine Work" by G. S. Mole, B.Sc. (Associate Member).	
			March and April	"The Design and Development of Two-drum Marine Boilers" by E. G. Hutchings, B.Sc. (Member).	
			May	"Torsional Vibrations—Some Actual Marine Problems and Solutions" by T. W. Spaetgens, B.A.Sc., P.Eng.	
			June	"Theory of Centrifugal Separation and Means of Comparing Two Centrifuges of Different Dimensions with Each Other" by B. Zachariassen, Mech.E., and "Centrifugal Separation of Marine Fuels and Lubricating Oils" by L. Norling, Mech.E.	
			July and August	"The Present Status of the Free-piston Pulse Combustion Gas Turbine for Marine Propulsion" by R. G. Fuller, P.Eng. (Member).	
			September	"Marine Engineering Workshop Techniques" by D. L. Morgan (Graduate).	

## Annual Report of the Council for 1963

Issue	Title
October	Explosion from a multi-tubular Scotch Boiler on board the m.v. <i>Heranger</i> and Explosion from the Port Boiler of the s.s. <i>Edinburgh Castle</i> : reports of the preliminary inquiries by the Ministry of Transport.
November	Presidential Address of Sir Nicholas Cayzer, Bt.
November	"The Application of Planned Maintenance to Steam Turbine Tankers" by J. Scott, D.S.C.
December	(Member) and H. Vickerstaff (Member).

### JUNIOR LECTURES

The following lectures were arranged in addition to those reported by the individual Sections of the Institute:

23rd January	at Kingston College of Further Education. "Automatic Boiler Control" by P. M. Taylor.
6th February	at Willesden Technical College. "Oil Fuel Burning" by J. Wishart.
11th February	at East Ham Technical College. "Petroleum Refining" by E. H. Wild.
31st October	at Poplar Technical College. "The Operation of Diesel Engines on Marine Fuel Oils" by J. Harle (Member).

### EDUCATION GROUP

The Annual General Meeting of the Group was held on 19th March. It was followed by a discussion on the White Paper "Better Opportunities in Technical Education". The report of the discussion was published in the October issue of the TRANSACTIONS.

### INSTITUTE AWARDS

*The Denny Gold Medal* for 1963 has been awarded to R. Munton, B.Sc. (Member of Council), J. McNaught (Member) and J. N. Mackenzie (Member) for their paper entitled "Progress in Automation" read before the Institute on 23rd April 1963.

*The Institute Silver Medal* for 1963 has been awarded to A. J. Johnson, Ph.D., B.Sc. (Eng.), A.C.G.I., and W. McClimont, B.Sc. (Member) for their paper entitled "Machinery Induced Vibrations" read before the Institute on 8th January 1963.

*The Akroyd Stuart Award* for 1961/63, value £50, has been awarded to P. Jackson, M.Sc. (Member of Council) for his paper entitled "The Doxford Direct Drive Diesel Engine" read before the Institute on 8th May 1962 during the International Conference of Marine Engineers.

*Extra First Class Engineer's Certificate Examination—Institute Award.* The Institute Silver Medal for the candidate obtaining the highest marks in the Ministry of Transport's examinations in 1963 has been awarded, on the recommendation of the Chief Examiner of Engineers to A. H. Syed (Associate Member).

*The W. W. Marriner Memorial Prize*, value £5, for the best Engineering Knowledge script written by a candidate in the Ministry of Transport's examination for the Second Class Engineer's Certificate of Competency has been awarded, on the recommendation of the Chief Examiner of Engineers, to J. N. M. Maas, M.A. (Graduate).

*The Frank Roberts Award*, consisting of books or instruments to the value of £7 10s., awarded annually to the Student or Probationer Student member of the Institute gaining the highest aggregate marks in the courses and examinations in Phase III of the alternative scheme for the training of seagoing engineers has been won by D. Butterfield (Student).

### *Institute Awards for the Ordinary National Diploma Course*

The Institute's awards, value two and three guineas each respectively, for the best first year and the best second year students taking the Ordinary National Diploma Course under

the alternative scheme for the training of seagoing engineers were awarded as follows:

M. D. Vernon (first year) and D. Tucker (second year), Birkenhead Technical College.
P. M. Lawford (first year) and R. Gilbert (second year), Bolton Technical College.
R. L. Wright (first year) and J. B. Maycock (second year), Hendon Technical College.
J. W. Stevens (second year), Kingston College of Further Education.
T. C. Little (first year) and R. England (second year), College of Technology, Kingston upon Hull.
L. F. Curtis (first year) and W. H. Rance (second year), Highbury College of Technology, Portsmouth.
B. A. Popoola (first year) and M. J. Crowe (second year), Newport and Monmouthshire Technical College.
L. J. Hotchen (first year) and J. C. Merren (second year), Poplar Technical College.
P. Loud (first year) and A. G. MacDonald (second year), Riversdale Technical College, Liverpool.
M. Wells (first year) and R. Broadbent (second year), South Shields Marine and Technical College.
B. N. Scott (first year) and P. Hancock (second year), Stow College of Engineering, Glasgow.
J. D. Jones (first year) and J. W. Clamp (second year), Swansea Technical College.
R. C. Hingley (first year) and S. Davis (second year), Willesden Technical College.

### *Institute Prizes for the Study of Heat Engines*

The Institute's annual prizes, value two guineas each, for students at technical colleges and schools in marine centres who accomplish the best year's work in the subject of heat engines were awarded as follows:

A. McIntosh, Arbroath High School Further Education Centre.
G. M. M. Jackson, Barrow-in-Furness Central College of Further Education.
M. E. McGibney, Belfast College of Technology.
H. E. Evans, Bootle Municipal Technical College.
D. J. Stribling, Bristol Technical College.
P. A. Sterrett, Constantine Technical College, Middlesbrough.
P. Seroczynski, Dundee Technical College.
D. E. C. Bettison, Falmouth Technical College.
D. E. Falconer, Gateshead Technical College.
K. Hazzard, Highbury Technical College, Portsmouth.
C. A. Martin, College of Technology, Kingston upon Hull.
B. R. Jones, Llandaff Technical College.
A. J. Baxter, The Polytechnic, Regent Street, London, W.1.
I. J. Haviland, Poplar Technical College.
F. D. Monison, Riversdale Technical College, Liverpool.
G. F. Anderson and W. Youngson (award to be divided), Robert Gordon's Technical College, Aberdeen.
D. G. Gregg, Newcastle College of Further Education.
M. J. Frost, Southampton College of Technology.
R. M. Beeson, South East London Technical College.
W. Hart, South Shields Marine and Technical College.
P. K. N. Eserin, South West Essex Technical College and School of Art.
C. Street, Stow College of Engineering, Glasgow.
E. H. James, Swansea Technical College.
J. H. Smith, Watt Memorial College, Greenock.
D. Knaggs, West Hartlepool Technical College.
J. M. Brown, West Park College of Further Education, Sunderland.

### *Thames Nautical Training College—H.M.S. Worcester*

The Institute's annual prize, value two guineas, for excellence in marine engineering, was awarded to Cadet I. Woollard.

### INSTITUTE EXAMINATIONS

#### *Associate Membership Examinations*

Six candidates entered for the Part I Examination; two



## Annual Report of the Council for 1963

passed and one was referred in one subject. Four candidates entered for the Part II examination; one was referred in one subject. One candidate entered and passed the Part III examination.

### National Certificates and Diplomas in Mechanical Engineering

The following have been issued and signed on behalf of the President during 1963: Ordinary National Certificates, 669; Endorsements, 160; Higher National Certificates, 129; Endorsements, 15; Ordinary National Diplomas (Marine), 52; Higher National Diplomas, 24; Ordinary National Diplomas (Alternative), 177.

### INSTITUTE PUBLICATIONS

Two of the Institute's publications, namely, "The Running and Maintenance of Marine Machinery" and "Naval Architecture and Ship Construction" have been in demand. The publication date of the revised edition of the third, "Electricity Applied to Marine Engineering", cannot yet be announced.

### INSTITUTE REPRESENTATION ON OUTSIDE ORGANIZATIONS

The Institute has been represented during the year on the Engineering Institutions Joint Council and its Committees by Vice-Admiral Sir Frank Mason, K.C.B., immediate Past Chairman of Council, Cdr. F. M. Paskins, O.B.E., R.D., R.N.R., Chairman of Council, and the Secretary.

The British Standards Institution is setting up a Committee to prepare a Standard for Marine Boilers. The following are representing the Institute on this Committee:

E. G. Hutchings, B.Sc.  
J. N. Mackenzie  
N. Macleod  
J. H. Milton

Upon invitation the Institute has nominated the following representatives to serve on the Committees shown:

*British Standards Institution: Technical Committee FSB/1—Definitions and Tests for Fire Resistance*—A. S. Minton.  
*City of Liverpool College of Technology: Mechanical, Marine and Production Engineering Advisory Committee*—G. Keenan.  
*North Western Regional Advisory Council for Further Education: Nautical Advisory Committee*: Lt. Cdr. G. Kenworthy-Neale, R.N.R.

The Institute's representation on the following Committees have been altered as indicated:

*British National Committee for Non-destructive Testing*: J. McAfee *vice* R. H. Paddon Row (resigned).

*British Standards Institution:*  
*Technical Committee ISE/15—Iron and Steel for Shipbuilding*: W. Rennie *vice* J. Turnbull, O.B.E. (resigned).  
*Technical Committee MEE/81—Valves for Gas, Water and Steam*: J. G. Robinson *vice* A. Logan, O.B.E. (resigned).  
*Technical Committee MEE/81/3—General Purpose Valves*: J. G. Robinson *vice* A. Logan, O.B.E. (resigned).  
*Technical Committee MEE/91—Joining Materials and Compounds*: N. Macleod *vice* Lt. Cdr. A. P. Monk, D.S.C., R.N. (resigned).  
*Technical Committee MEE/123—Diesel and Gas Engines*: J. G. Robinson *vice* A. Logan, O.B.E. (resigned).

*East Ham Technical College, Engineering Advisory Committee*: R. M. Duggan, M.A., *vice* R. S. Brett (resigned).

*Institute of Welding*: W. Rennie *vice* J. Turnbull, O.B.E. (resigned).

### ROYAL GARDEN PARTIES

The following had the honour of attending a Garden Party held by Her Majesty The Queen in July:

Cdr. F. M. Paskins, O.B.E., R.D., R.N.R. and Mrs. Paskins.  
Mr. R. Cook, M.Sc., and Mrs. Cook.  
Mr. R. Munton, B.Sc., and Mrs. Munton.

### HONOURS

The Council congratulates the following members upon whom Her Majesty Queen Elizabeth II conferred honours during the year:

The Right Honourable The Viscount Alexander of Hillsborough, P.C., C.H. (Honorary Member)—Earldom.  
Rear-Admiral R. S. Hawkins (Honorary Vice-President for the Royal Navy)—C.B.  
W. Young (Vice-Chairman of Council)—C.B.E.  
Cdr. G. M. Fletcher, R.N. (Member)—O.B.E.  
H. F. Jones (Companion)—O.B.E.  
Sen. Ch. Eng. C. J. Mathews, R.F.A.S. (Member)—O.B.E.  
T. Spence, D.S.C. (Member)—O.B.E.  
M. C. Storm (Member)—O.B.E.  
E. G. Lashmar (Member)—M.B.E.

### DEATHS

Amongst the losses by death recorded during the year the following will be remembered particularly for their services to the Institute:

Sir William Wallace, C.B.E., LL.D. (Member and Past President).  
Sir Summers Hunter (Honorary Vice-President).  
W. Sampson (Honorary Vice-President).  
D. W. Gelling (Local Vice-President, Bristol).

### REMEMBRANCE DAY

The Vice-Chairman of Council, Mr. W. Young, C.B.E., attended the Service in Westminster Abbey, and the Honorary Treasurer, Mr. J. Calderwood, M.Sc., laid a wreath on the Mercantile Marine War Memorial, Tower Hill, London, E.C.3, on Sunday, 10th November 1963.

### ANNUAL NATIONAL SERVICE FOR SEAFARERS

The Vice-Chairman of Council, Mr. W. Young, C.B.E., represented the Institute at the Annual National Service for Seafarers held in St. Paul's Cathedral on Wednesday, 23rd October.

### SOCIAL EVENTS

The following social functions have been held:  
Annual Dinner, at Grosvenor House, London, W.1, on 8th March.  
Annual Conversaciones, at Grosvenor House, London, W.1, on 6th and 20th December.

F. M. PASKINS (*Chairman of Council*)  
J. STUART ROBINSON (*Secretary*)

# THE INSTITUTE OF MARINE ENGINEERS

## BALANCE SHEET

31st DECEMBER 1963

31.12.62	£	£	£	£
337,942				<b>353,324</b>
<b>Capital Account</b> (Note 1) ... ..				
360,000				<b>345,000</b>
<b>Loan Capital</b> (Note 2) ... ..				
5,000				<b>6,000</b>
<b>Capital Reserve</b>				
The Memorial Building Redemption Fund				
<b>Accumulated Funds</b>				
79,425		74,336		
General Revenue Account ... ..				
24,998		26,090		
The Memorial Building Revenue Account				
104,423		100,426		
23,648				<b>33,309</b>
<b>Revenue Reserves</b> (Note 3) ... ..				
831,013		838,059		
3,643				<b>3,296</b>
<b>Social Events Account</b> (Note 4)				
<b>Awards and Prize Funds</b> (Note 5)				
4,963		5,485		
Capital ... ..				
797		560		
Income ... ..				
5,760		6,045		
<b>£840,416</b>				
<b>£847,400</b>				

31.12.62	£	£	£
£	£	£	£
	<i>Cost</i>	<i>Depre- ciation</i>	
<b>Fixed Assets</b>			
691,084	The Memorial Building ... ..	691,084	—
13,705	Furniture and Fittings ... ..	24,404	10,125
704,789		715,488	10,125
			<b>705,363</b>
<b>Investments</b>			
93,667	Quoted Securities (Note 6) ... ..		96,479
12,300	Less: Reserve for Depreciation ... ..		12,300
81,367			84,179
	Sinking Fund Insurance Policies (Note 7) ... ..		—
81,367			84,179
<b>Social Events Account</b>			
3,643	Cash at Bank ... ..		<b>3,296</b>
5,760	<b>Awards and Prize Funds</b> (Note 8)		<b>6,045</b>
71,157	<b>Current Assets</b> (Note 9) ... ..	73,058	
26,300	Less: <b>Current Liabilities</b> (Note 10) ... ..	24,541	
44,857		48,517	
£840,416		£847,400	

Annual Report of the Council for 1963

### REPORT OF THE AUDITORS TO THE MEMBERS OF THE INSTITUTE OF MARINE ENGINEERS

We have audited the above Balance Sheet and annexed Accounts and have obtained all the information we have required. We have verified the Investments, Bank Balances, Insurance Policies and Title Deeds by means of certificates.

In our opinion the Balance Sheet and Accounts have been properly drawn up so as to exhibit respectively, together with the explanatory notes, a true and fair view of the state of the Institute's affairs as at 31st December, 1963 and of the income and expenditure for the year ended on that date.

SARDINIA HOUSE,  
52, LINCOLNS INN FIELDS,  
LONDON, W.C.2.

28th February, 1964.

WEST AND DRAKE,  
Chartered Accountants.

GENERAL REVENUE ACCOUNT

31.12.62			£	£	£
£	£				
<b>Membership Expenditure</b>					
19,352		Transactions (Note 12) ... ..		19,254	
800		Year Book (Note 3) ... ..		1,230	
		Journal of the Joint Panel on Nuclear Marine Propulsion ... ..		595	
752		Overseas Sections Expenses ... ..	1,065		
825		Home Sections Expenses ... ..	1,749		
1,481				2,814	
		Travelling ... ..		212	
278		Library Books and Periodicals ... ..		914	
1,313		Lecture Expenses ... ..	412		
290		Junior Lecture Expenses ... ..	54		
50				466	
		Associate Membership Examination Expenses ... ..		21	
23		Engrossing Certificates ... ..		77	
61		Prizes ... ..		112	
144				25,695	
-----	25,369			-----	
<b>Establishment</b>					
4,209		Housekeeping and Cleaning ... ..		4,355	
1,470		Fuel and Lighting ... ..		1,447	
180		Insurance ... ..		113	
1,000		Repairs Appropriation (Note 3) ... ..		1,000	
		Depreciation of Furniture and Fittings ... ..		1,494	
1,451				8,409	
-----	8,310			-----	
<b>Administration</b>					
20,382		Salaries and Pensions ... ..		22,176	
2,962		Stationery and General Printing ... ..		3,184	
1,945		Postage and Telephone ... ..		2,053	
269		Maintenance of Equipment ... ..		136	
500		Audit Fee ... ..		500	
388		Contributions to other Bodies ... ..		484	
422		Sundries ... ..		368	
-----	26,868			28,901	
-----	£60,547			-----	£63,005

AX

YEAR ENDED 31st DECEMBER 1963

31.12.62			£	£	
£	£				
<b>Membership Income</b>					
1,361		Entrance Fees ... ..		1,384	
46,745		Subscriptions (Note 11) ... ..		48,056	
-----	48,106			49,440	
<b>Investment Income</b>					
5,298		Less: Credited to Awards... ..		4,650	
155				173	
-----	5,143			4,477	
<b>Rent Receivable</b>					
184		Hire of Hall and Council Room ... ..		181	
192		Insurance Commission ... ..		169	
<b>Profit on Sales of Publications</b>					
		"Running and Maintenance of Marine Machinery" ... ..		267	
288		"Naval Architecture and Ship Construction" ... ..		300	
293		Reprints of Papers, etc. ... ..		147	
66				714	
-----	647			-----	
6,275		<b>Deficit for the Year</b> carried down		8,024	
-----	£60,547			-----	£63,005

Annual Report of the Council for 1963

GENERAL REVENUE ACCOUNT ACCUMULATED FUND

6,275	<b>Deficit for the Year</b> brought down	8,024
169	Loss on Sale of Investment ... ..	—
	<b>Balance at 31st December, 1963</b>	
79,425	carried forward ... ..	74,336
-----		£82,360
-----		£85,869

	<b>Balance at 31st December, 1962</b> brought forward ... ..	79,425
108	Life Subscriptions Received ... ..	123
	— Profit on Sale of Investment ... ..	2,812
-----		£82,360
-----		£85,869



## NOTES ON ACCOUNTS

	£	£
<b>1. Capital Account</b>		
Balance at 31st December, 1962 ... ..	337,942	
Donations received during 1963 ... ..	382	
Appropriation from Memorial Building Revenue Account ... ..	15,000	
	<u>353,324</u>	<b>£353,324</b>
 <b>2. Loan Capital</b>		
The Church Commissioners		
Mortgage at 5½% per annum ... ..	287,500	
Mortgage at 6% per annum ... ..	57,500	
	<u>345,000</u>	<b>£345,000</b>
Secured on the Memorial Building and repayable by annual instalments of £15,000.		
 <b>3. Revenue Reserves</b>		
	<i>Balance</i>	<i>Appropriations</i>
	<i>31.12.62</i>	<i>Revenue Accounts</i>
		<i>General</i>
		<i>Memorial</i>
		<i>Building</i>
		<i>Expenditure</i>
		<i>during year</i>
	<i>Balance</i>	<i>Balance</i>
	<i>31.12.63</i>	<i>31.12.63</i>
	£	£
Staff Fund ... ..	3,366	106
Institute Premises Repairs Equalisation Account ... ..	498	949
Building Repairs Equalisation Account ... ..	3,752	3,000
General Services Fund ... ..	2,480	2,000
Year Book Expenses ... ..	852	1,230
Development Fund ... ..	2,700	4,000
Education Fund ... ..	10,000	10,000
	<u>£23,648</u>	<u>£11,569</u>
	<u>£2,230</u>	<u>£19,000</u>
	<u>£33,309</u>	<u>£33,309</u>
 <i>Note *</i>		
Canadian Division Expenses ... ..		1,927
Indian Division Expenses ... ..		461
Indian Division Furniture Depreciation ... ..		144
Visit of Chairman and Secretary to Canada, Australia and New Zealand ... ..		3,651
		<u>£6,183</u>
 <b>4. Social Events Account</b>		
Balance at 31st December, 1962 ... ..		3,643
Add: Profit on Dinner ... ..		123
		<u>3,766</u>
 <i>Less: Losses</i>		
Conversations ... ..		324
Summer Golf Meeting ... ..		14
Autumn Golf Meeting ... ..		12
Council Reception ... ..		120
		<u>470</u>
Balance at 31st December, 1963 ... ..		<u>£3,296</u>

5. Awards and Prize Funds

	Capital Account	Income Account for 1963		Balance 31.12.63
		Balance 31.12.62	Income	
<b>General</b>	£	£	£	£
Akroyd Stuart Award ... ..	700	276	32	308
W. W. Marriner Prize ... ..	230	18	8	21
Denny Gold Medal Award (Denny, Stephen and Lord Inverforth Awards) Formed by combining the Capital and accrued Income of:—				
Denny Gold Medal	Capital 250 Income 106			
				356
Denny Award	Capital			100
Stephen Legacy	Capital			100
Lord Inverforth Award	Capital			100
Combined Income				79
	735	—	29	14
15				
Extra First Class Certificate Award (Jacobs, Murdoch, Robertson and Girdwood Awards) Formed by combining the Capital and accrued income of:				
Adam Girdwood Award	Capital 15 Income 8			
				23
John I. Jacobs Award	Capital			119
W. Murdoch Legacy	Capital			62
D. F. Robertson Award	Capital			100
Combined Income				132
	436	—	18	—
18				
Frank Roberts Award ... ..	221	—	8	8
—				
Diesel Engine Prizes A new award being built up from an anonymous covenanted donation and accrued interest ...	163	—	—	—
<b>Administered as Trustees</b>				
William Theodore Barker Award ... ..	3,000	178	120	100
	<u>£5,485</u>	<u>£472</u>	<u>£215</u>	<u>£127</u>
				<u>£560</u>

6. Investments

Quoted Securities at Cost

Government Securities

£10,640 3% Savings Bonds 1960/70 ... ..	£	10,494
£11,000 3% Savings Bonds 1965/75 ... ..		8,581
£12,500 3% British Transport Guaranteed Stock 1978/88 ... ..		9,826
£2,500 3½% Conversion Loan ... ..		2,668
£800 3% Treasury Stock ... ..		704
£3,250 5½% Treasury Stock 2008/12 ... ..		2,890
£13,200 3½% War Loan ... ..		12,636

47,799

<b>Banks</b>			
1,540 Lloyds Bank Ltd. £1 Ordinary Shares	...	...	3,765
<b>Breweries</b>			
2,800 Charrington United Breweries Ltd. 5/- Ordinary Shares	...	...	1,708
1,800 Charrington United Breweries Ltd. 6% Convertible Unsecured Loan Stock 1976/78	...	...	1,642
			<u>3,350</u>
<b>Commercial and Industrial</b>			
1,500 Beecham Group Ltd. 5/- Ordinary Shares	...	...	3,267
£1,427 Bowater Paper Corporation Ltd. Ordinary Stock	...	...	3,910
1,800 Gallaher Ltd. 10/- Ordinary Stock Units	...	...	2,766
£700 Guest Keen & Nettlefolds Ltd. Ordinary Stock	...	...	3,267
£1,575 Imperial Chemical Industries Ltd. Ordinary Stock	...	...	2,976
3,000 News of the World Ltd. 5/- non-voting Ordinary Shares	...	...	1,446
1,500 Reckitt & Colman Holdings Ltd., 10/- Ordinary Shares	...	...	3,210
1,500 United Drapery Stores Ltd. 5/- Ordinary Shares	...	...	2,764
			<u>23,606</u>
<b>Insurance</b>			
700 Northern & Employers Insurance Co. Ltd. £1 Ordinary Shares	...	...	3,571
1,500 Guardian Assurance Co. Ltd. 5/- Ordinary Shares	...	...	3,305
			<u>6,876</u>
<b>Iron, Coal and Steel</b>			
750 Colvilles Ltd. £1 Ordinary Shares	...	...	3,040
<b>Dollar Securities</b>			
125 Johns Manville Corporation \$5 Common Shares	...	...	2,664
100 F. W. Woolworth Co. \$10 Common Shares	...	...	2,477
100 U.S. Steel Corporation \$16 2/3 Common Shares	...	...	2,902
			<u>8,043</u>
			<u><b>£96,479</b></u>

(Market Value at 31st December, 1963 £88,967)

**7. Sinking Fund Insurance Policies**

Single Premiums to

<i>Assurance Company</i>	<i>Date of Maturity</i>		<i>Payment Secured</i>	
Royal Exchange Assurance Company	1st November	2011	...	10,000
Royal Exchange Assurance Company	10th June	2012	...	10,000
Canada Life Assurance Company	10th June	2012	...	1,000
Atlas Assurance Company	10th June	2012	...	1,000
Sun Life Assurance Society	10th June	2012	...	1,000
				<u><b>£23,000</b></u>

(The present surrender value of the above policies is £4,660)

**8. Awards and Prize Funds**

<b>Investments</b>	£	£
Akroyd Stuart Award		
£915 3½% Conversion Loan at Cost	...	698
W. W. Marriner Prize		
£166 3% Savings Bonds 1955/65 at cost	...	166
Denny Gold Medal Award		
£100 3½% War Loan at par	...	100
Extra First Class Certificate Award		
£200 2½% Consolidated Stock as valued in 1919	...	119
		<u>1,083</u>
<b>Cash on Deposit</b>	...	4,962
		<u><b>£6,045</b></u>

9. <b>Current Assets</b>			£	£	
Stocks on hand ... ..				8,383	
Sundry Debtors and Prepayments less provision for Doubtful Debts				11,367	
Tenants for Rents and Service Charges				22,688	
Loan to Local Authority ... ..				20,000	
Cash and Bank Balances ... ..				10,620	
				<b>£73,058</b>	
10. <b>Current Liabilities</b>					
Sundry Creditors ... ..				12,868	
Mortgage Interest ... ..				7,335	
Income Tax Payable			6,627		
<i>Less: Income Tax Recoverable</i>			<u>3,744</u>		
				2,883	
Unexpired Subscriptions (Note 12)				1,455	
				<b>£24,541</b>	
11. <b>Subscriptions</b>					
1962			<i>Received</i>	<i>Unexpired</i>	<i>Net</i>
£			£	£	£
22,038 Members ... ..			22,579	516	22,063
13,992 Associate Members			15,710	533	15,177
5,657 Associates ... ..			5,533	122	5,411
2,971 Graduates ... ..			3,397	152	3,245
1,345 Students ... ..			1,593	80	1,513
604 Probationer Students			464	52	412
138 Companions ... ..			235	—	235
			<u>£49,511</u>	<u>£1,455</u>	<u>£48,056</u>
<u>£46,745</u>					
12. <b>Transactions</b>					
1962			£	£	£
£	£				
26,613 Composition, Printing, Paper, etc.				23,138	
5,799 Reporting, Abstracting and Salaries				6,539	
8,093 Wrapping and Postage				7,579	
	40,505				37,256
22,464 <i>Less: Advertising Revenue</i>				19,599	
2,249 Sales				2,543	
28 Profit on Bound Volumes				71	
	<u>24,741</u>				<u>22,213</u>
	15,764				15,043
2,133 Canadian Supplement				2,406	
630 <i>Less: Advertising Revenue</i>			365		
19 Sales			29		
	1,484			394	
					2,012
2,150 Indian Supplement				2,760	
1,617 <i>Less: Advertising Revenue</i>			1,845		
— Sales			12		
	533			1,857	
					903
1,674 Student Transactions				1,513	
103 <i>Less: Sales</i>				217	
	<u>1,571</u>				<u>1,296</u>
<u>£19,352</u>					<b>£19,254</b>



## Annual Reports of the Sections

### HOME

#### DEVON AND CORNWALL

A letter sent to all non-registered members resulted in an encouraging number of requests for local registration. Not only does this increase in local membership make possible an improvement in attendance at meetings, it also results in an increase in Section funds, as part of the Honorary Treasurer's grant is based on the numerical strength of the Section.

The membership at the end of 1963 is as follows:

		<i>Registered</i>	<i>Non-registered</i>
Members	... ..	76	30
Associate Members	... ..	45	26
Companions	... ..	—	1
Associates	... ..	11	7
Graduates	... ..	10	18
Students	... ..	31	19
Probationer	Students	12	17
		185	118

Last year's total was 145 registered members and 137 non-registered. This significant increase is almost entirely due to the letter mentioned above.

During 1963 the following meetings were held:

- \* 13th February (Plymouth) "Machinery Induced Vibrations".  
by A. J. Johnson, B.Sc. (Eng.), Ph.D.,  
A.C.G.I., and W. McClimont, B.Sc.  
(Member).
- † 8th March (Plymouth) "Fire Fighting Equipment and  
its use in Ships" by G. Victory (Member).
- † 23rd October (Plymouth) "Metallurgy in Marine Engineer-  
ing" by J. E. Garside, M.Sc., Ph.D.
- ‡ 20th November (Plymouth) "The Application of Free-piston  
Gas Turbine Machinery to Marine Pro-  
pulsion" by C. W. Herbert (Member) and  
G. F. Milne, B.Sc. (Associate Member).
- † 27th November (Falmouth) "Launching of Ships" by R. S.  
Hogg (Member).

For the first time since the inauguration of the Section, a coach was hired to take a party of members from Plymouth to Falmouth to attend the lecture there; notice having been received from London that the cost of such hirings may be met from Section funds.

The attendance at lecture meetings has, again, been satisfactory, but only just so. Whether the increased registered membership will result in an improvement remains to be seen. Attendances at present vary from around thirty-five to fifty and any great increase, particularly at junior lectures, cannot be expected. There are usually some visitors to help swell the numbers and it is to be hoped that members will encourage such people to attend as often as possible. As last year, no requests have been received for meetings in places other than Plymouth and Falmouth; neither have any requests been received for any particular lectures. It may be as well to remind members that they are quite entitled to put forward, at any time, suggestions or requests for specific lectures or other

reasonable functions. Offers to present a paper, formally or otherwise, from members or others, having knowledge of, or experience in, some subject or topic of interest, would be particularly welcome.

It was agreed that the Annual Dinner should be held in the Spring instead of the Autumn. As members will now be aware, it is to be held at the Royal Naval Engineering College and will be followed by a dance. Thanks are due to the Commanding Officer of the College for permission to hold the function there and to Commanders Farrell and Morgan for making the preliminary arrangements.

It was put on record that 1963 was a successful year.

W. E. B. Dainton (*Chairman*)

A. H. Moreton (*Honorary Secretary*)

#### *Annual General Meeting*

The Annual General Meeting of the Section was held on Wednesday, 15th January 1964, at the Duke of Cornwall Hotel, Plymouth.

Mr. W. E. B. Dainton (Chairman of the Section) was in the Chair and among those present were Captain J. G. Little, O.B.E., R.N. (Local Vice-President), and the Corresponding Member for Falmouth, Mr. N. W. Jephcott, M.A.

The annual report and financial statement were presented and approved. With the approval of the meeting, the Chairman thanked the Honorary Secretary and Honorary Treasurer for their efficient presentation of these matters.

Only four nominations were received for the four vacancies on the Committee therefore no ballot was necessary. The Honorary Secretary and Honorary Treasurer were confirmed in office for a further year.

The Committee for 1964 is as follows:

Local Vice-President: Captain J. G. Little, O.B.E.,  
R.N.

Corresponding Member, Falmouth: N. W. Jephcott,  
M.A.

Chairman: R. E. Pritchard

Vice-Chairman: *To be appointed*

Committee: J. A. P. Collings

Cdr. W. Farrell, M.B.E., R.N.

Cdr. J. Frederick, R.N.

S. H. Hambling

Instr. Cdr. H. E. Morgan, B.Sc. (Eng.),  
R.N.

R. McK. Nicholson

H. Vickerstaff

S. Walker

Eng. Cdr. F. E. Yeates, O.B.E., R.N.

Honorary Secretary: A. H. Moreton

Honorary Treasurer: Commander R. T. Jones,  
O.B.E., D.S.C., R.N.

The Annual General Meeting was followed by an informal discussion on "Marine Casualties with Particular Reference to the Marine Engineer". The subject was introduced by Mr. W. E. B. Dainton and Mr. S. Walker who gave a short discourse outlining a number of marine casualties of which they knew, the results of enquiries and the verdicts which ensued,

## Annual Report of the Council for 1963

and the part played by the Ministry of Transport officials in these enquiries.

A number of interesting contributions was made by members, and numerous questions asked. The procedure adopted at Royal Naval enquiries into casualties aboard R.N. ships was outlined by Captain Little.

The discussion touched deeply upon the connexion between marine casualties and the general competence of the marine engineer at sea, also on the amount of practical instruction he ought to receive, as an official policy, in the prevention and attack of fires on board ship.

The general opinion appeared to be that: a) there was considerable lack of knowledge and some incompetence of seagoing staff and b) that the duties of the engineer left him little time to spend on checking and getting to know his fire fighting equipment, and still less to carry out suitable exercises as is the practice in the Royal Navy.

\* Published in the April 1963 issue of TRANSACTIONS.

† Junior Lecture.

‡ Published in the December 1963 issue of TRANSACTIONS.

### KINGSTON UPON HULL AND HUMBER AREA

The year 1963 again found the Section in a healthy and progressive state. During the year membership increased from 368 to 378 and it is pleasing to see that the increase has occurred in the registered membership. This has only come about by constant vigilance and communication to new and existing members regarding the advantages of registration with the Section.

The membership stands as follows:

	<i>Registered</i>	<i>Non-registered</i>
Members ... ..	84	27
Associate Members ...	88	43
Associates ... ..	23	7
Graduates ... ..	20	13
Students ... ..	12	21
Probationer Students	18	22
	245	133

During the year eight meetings were held as follows:

17th January	"Manufacture and Design of Marine Propellers since 1945" by L. Sinclair.
* 7th February	"Marine Electrical Engineering" by D. Gray, B.Sc. (Member).
21st February	"Oil Burning: Design and Application to Marine Boilers" by J. Wishart.
21st March	"The <i>Junella</i> : Recent Developments in Trawler Design" by J. Wright at the Royal Hotel, Grimsby.
† 4th April	"Some Aspects of Noise Reduction in Merchant Ships" by R. Cook, M.Sc. (Member of Council) and N. Fleming, M.A.
10th October	"The Selection of Machinery for Small Ships" by J. B. Griffith, B.A. (Member).
7th November	"Recent Developments in A.C. and D.C. Installations for all Types of Ships" by D. Gray, B.Sc. (Member).
5th December	"Air Cooled Marine Diesel Engines" by P. L. Johnson.

Except where otherwise stated the lectures were held at the Royal Station Hotel, Kingston upon Hull.

The standard of lectures was again high and although there was a considerable drop in attendance figures it was consistent over the whole year (despite the hard winter). The average attendance was fifty-one and this was made up of twenty-five members and twenty-six visitors, the support given by members being rather disappointing. The attendance at the junior lecture was thirty-three. The above figures do not include the attendance at the meeting held in Grimsby since this lecture became part of the National Productivity Year effort in Grimsby and was attended by many outside bodies. A rough estimate of the attendance was 240.

A record number of 226 members and guests attended

the Annual Dinner on Friday, 1st November 1963 at the Guildhall, Kingston upon Hull, and heard speeches by the Vice-Chairman of Council, Mr. W. Young, C.B.E., and the Right Honourable The Lord Mayor of Kingston upon Hull, Alderman J. G. Teskey-King.

During the year the Institute Awards for the Ordinary National Diploma Course were received by Mr. R. England and Mr. A. Meese, whilst Mr. M. E. Storey was awarded the Higher National Heat Engines Prize. Mr. D. F. Cousins was selected for the Lloyd's Register of Shipping Award.

Nomination forms for the election of the Committee were issued in December and by the closing date of 1st January 1964 the following members had been nominated: Messrs. J. Jackson, F. Hipson, A. C. Kelly, A. W. Kemp, S. Mathews, R. King, F. C. Inskip and J. E. Bayram. The nomination of G. D. Moore was received after the closing date and thus could not be included.

G. W. Hill (*Chairman*)

D. A. Taylor (*Honorary Secretary*)

### Annual General Meeting

The Thirteenth Annual General Meeting of the Section was held at the Royal Station Hotel, Kingston upon Hull, on Thursday, 30th January 1964, at 7.30 p.m., when the Chairman was Mr. F. C. M. Heath (Local Vice-President).

Apologies for absence were first received from Messrs. P. F. Dilot, S. Mathews, P. V. Turner and J. E. Bayram.

The minutes of the Twelfth Annual General Meeting were read and adopted. Points of discussion were deferred as they would appear later on the agenda and the Chairman signed the minutes.

The Honorary Treasurer then presented his report and first explained that the balance in hand on the Institute Account was much lower than previous years due to a number of factors, but mainly due to the fact that eight lectures were held during the year and that a Pre-Sea Marine Engineering Prize of £5 5s. was now awarded by the Section. At this point the Honorary Secretary explained the circumstances surrounding this prize.

Points were discussed regarding the social account of the Section, these mainly consisted of matters pertaining to the Annual Dinner.

The Honorary Secretary then presented his report which was adopted by the meeting. The main point for concern here was lecture attendances.

The Chairman's remarks followed in which Mr. Heath first welcomed all those present and asked them to join him in congratulating both the Honorary Treasurer and Honorary Secretary for their reports, also for their loyal service during the year. In generalizing on the past year Mr. Heath recorded the continued success of all activities but again asked greater loyalty of *members* regarding attendance at lectures. The rise in registered membership was pleasing but he again stressed the importance of caution when proposing new members. Great attention should be paid to the eligibility of the applicant before adding a valued signature. He looked forward to the coming year with great hope but also with a little concern. Firstly there was to be the first Dinner Dance when members would enjoy the company of the ladies and the colour and tone which they will add to that occasion. Mr. Heath then read out the letter from the Council nominating him for the position of Vice-President for the United Kingdom in recognition of his services to the Institute and to the Section. In accepting this honour Mr. Heath thanked the Officers and the Section for their loyalty and unstinted support. Now for matters causing concern. In spite of the fact that marine engineers holding Ministry of Transport Certificates were in great demand both ashore and afloat, great emphasis was being placed on higher academic qualifications, in some cases at the expense of the M.o.T. Certificate of Competency. As head of a marine engineering department, Mr. Heath fully realized that it was necessary to move with the times and the seagoing engineer had always done this. Indeed such engineers would always be essential and future M.o.T. examinations would

## Annual Report of the Council for 1963

produce engineers of the correct and proper standard, fully capable of handling all envisaged developments in machinery. Meetings were held annually between the various bodies and the Ministry of Transport to ensure this. In wartime, marine engineers had achieved high esteem and a fitting memorial had been erected to them. In peacetime they continue to uphold this and would rise to the occasion as it confronted them. In affairs of the Institute there were signs of this unfortunate trend. Mr. Heath then outlined the history of the Institute and the predominant part played by men holding M.o.T. Certificates. They must continue to predominate and there is ample room for the academic engineer in the membership of the Institute. Indeed, they are welcome providing they are fully eligible but not to push the marine engineer from his rightful position. Loyalty is a "two way ticket". There has been and always will be, loyalty to the Institute and in future developments the Institute must remain loyal to the marine engineer.

Considerable discussion then took place on this matter when all aspects were examined and a resolution passed unanimously stating that representatives of the Section are directed to oppose changes which would adversely affect the status of the marine engineer holding an M.o.T. Certificate.

The business of the evening then proceeded with the election of the Committee and at this point Mr. D. Vincent submitted his resignation from the Committee owing to his being posted to India. The Chairman thanked Mr. Vincent for his loyal service and wished him every success in his new post.

The meeting agreed to elect seven new members to the Committee and Messrs. D. Vincent and H. T. Eccles were appointed as Scrutineers. Fifty-one voting papers had been received out of 172 sent out and the Scrutineers reported that Messrs. J. E. Bayram, F. Hipson, F. C. Inskip, A. C. Kelly, A. W. Kemp, R. King, and S. Mathews had been elected.

Messrs. C. J. Potter and D. A. Taylor were elected as Honorary Treasurer and Honorary Secretary respectively and Messrs. P. H. V. Evers and W. Holcroft were re-elected as Honorary Auditors.

Under the heading "Any other business" members discussed the suggestion of a Correspondence Section in TRANSACTIONS and the Honorary Secretary was asked to pursue the matter in due course.

A short Committee meeting followed in which Mr. G. W. Hill, M.B.E. was re-elected as Chairman for the forthcoming year. It was then agreed to co-opt Mr. G. A. Skelton, M.B.E. to the Committee. Mr. Skelton was then re-elected as Vice-Chairman for the coming year.

The newly constituted Committee is as follows:

- Local Vice-President: F. C. M. Heath
- Chairman: G. W. Hill, M.B.E.
- Vice-Chairman: G. E. Skelton, M.B.E. (co-opted)
- Committee: J. E. Bayram
- J. Campbell
- A. C. Coward, M.B.E.
- F. Hipson
- F. C. Inskip
- A. C. Kelly
- R. King
- A. W. Kemp
- S. Mathews (Member of Council)
- R. Rawlings
- F. N. Sutcliffe

Honorary Secretary: D. A. Taylor  
 Honorary Treasurer: C. J. Potter

\* Junior Lecture.

† Published in the June 1963 issue of TRANSACTIONS.

### MERSEYSIDE AND NORTH WESTERN

The total membership of the Section has shown an overall increase of thirteen, and there is now a total of 1,706 members. The membership is as follows:

	Registered	Non-registered
Members ... ..	359	120
Associate Members ...	280	157
Companions ... ..	1	—
Associates ... ..	78	39
Graduates ... ..	68	54
Students ... ..	114	123
Probationer Students	126	187
	1,026	680

During the latter half of the year the senior meetings have been taking place in the Lecture Theatre of the Royal Institution, Colquitt Street, Liverpool. These lectures have been extremely poorly attended only some forty to fifty persons turning up. The Committee has been very disturbed about this and, following a suggestion that difficulties were being experienced by members in finding their way to the Lecture Theatre, a map of the area and a circular letter have been forwarded to all members of the Section.

Papers read in the early part of the year in the Theatre of the Merseyside Film Institute Society, 45 Bluecoat Chambers, Liverpool, were as follows:

- 9th January "Automation in Ships' Engine Rooms" by Captain N. J. H. D'Arcy, R.N. (Member).
- \* 6th February Annual General Meeting followed by "The Application of Planned Maintenance to Steam Turbine Tankers" by J. Scott, D.S.C. (Member) and H. Vickerstaff (Member).
- † 13th March "Noise Reduction" by R. Cook, M.Sc. (Member of Council) and N. Fleming, M.A.

Papers read in the Lecture Theatre of the Royal Institution, Colquitt Street, Liverpool, were:

- 9th October "Interesting Investigations" by J. H. Milton (Member of Council).
- ‡ 6th November "Cargo Handling Equipment for Dry Cargo Vessels" by A. S. Brown, M.B.E. and P. T. Beniston.
- 4th December "Some Factors Influencing the Life of Marine Crankshafts" by S. Archer, M.Sc. (Member).

In conjunction with "Ladsirlac" the Section organized and supported the following lecture in the "Brown" Library, William Brown Street, Liverpool.

- 16th January "The Marine Engineer" by C. C. Pounder (Past President).

On Thursday, 7th February, by kind invitation of the Liverpool Engineering Society, members attended the 1963 Thomas Lowe Gray Lecture at the Royal Institution, when Professor Masao Yoshiki read his paper "Construction and Fabrication of Large Tankers in Japan".

The undernoted meetings were held in "The Engineers' Club", 17 Albert Square, Manchester, 2:

- § 22nd April "Shore Trials of Marine Steam Turbine Machinery" by Dr. T. W. F. Brown, C.B.E., S.M. (Member).
- || 11th November "The Application of Free-piston Gas Turbine Machinery to Marine Propulsion" by C. W. Herbert (Member) and G. F. Milne, B.Sc. (Associate Member).

Junior lectures were presented as under:

- 20th February (Birkenhead) "Fire Fighting Equipment and its Use in Ships" by G. Victory (Member).
- 28th February (Bolton) "Oil Fuel Burning" by J. Wishart.
- 13th March (Riversdale) "Modern Application of Refrigeration in Ships" by Lt. Cdr. M. B. F. Ranken, R.N. (Member).
- 30th April (Birkenhead) "The Alignment Telescope" by L. Deakin (Member).
- 9th October (Riversdale) "Launching of Ships" by R. S. Hogg (Member).
- 29th October (Bolton) "The Layout and Operation of Marine Steam Turbine Machinery" by D. M. V. Parkinson, M.V.O. (Member).

## Annual Report of the Council for 1963

20th November (Birkenhead) "Automatic Boiler Control" by L. Young (Member).

This year there were six nominees from the Section for the Lloyd's Register of Shipping Award, namely, Mr. G. B. Elston and Mr. A. Pilling from Riversdale Technical College, Mr. D. L. Howarth and Mr. J. Henderson from Bolton Technical College and Mr. G. Akpevwiehor and Mr. A. G. Parrott from Birkenhead Technical College. They spent an interesting two days on 28th February and 1st March, attending a lecture entitled "Nuclear Submarines" by R. Baker, O.B.E., Technical Chief Executive on the *Dreadnought* project at the Admiralty, and visiting the National Physical Laboratory at both Teddington and Feltham.

The Annual Dinner and Dance was held in the Banqueting Suite of the Adelphi Hotel, Liverpool, on Friday, 1st November 1963, when the Section was honoured by the presence of Sir Nicholas Cayzer, Bt., President of the Institute, and Lady Cayzer. Some 330 members and friends attended this function.

During the year Mr. G. Keenan agreed to represent the Institute on the Engineering Advisory Committee of the City of Liverpool College of Technology.

A representative from the Section was invited to sit on the Nautical Advisory Committee of the North Western Regional Advisory Council for Further Education, and the Committee nominated Lt. Cdr. G. Kenworthy-Neale, R.N.R.

Mr. T. Kameen (Vice-Chairman of the Section) continues to represent the Institute as Vice-Chairman of the Board of Governors of the North East Technical Colleges and Old Swan, Riversdale and Walton Technical Colleges.

The Section wished to record thanks to Mr. T. Kameen who, owing to pressure of work was obliged to give up the office of Honorary Secretary in the middle of 1963. During his term of office he was assisted by his secretary, Miss T. Welsh, to whom thanks are due. After many years in office Mr. J. E. Shields, Honorary Treasurer, has decided not to seek re-election at the end of this session. The Committee has accepted this decision with regret and wishes to record its appreciation for all Mr. Shields' past services. Mr. H. J. Whitgreave, current Deputy Honorary Treasurer, has agreed to stand for election in place of Mr. Shields. Commander K. I. Short, O.B.E., D.S.C., R.N., was elected as Honorary Secretary in place of Mr. Kameen.

J. A. Smith (*Chairman*)  
K. I. Short (*Honorary Secretary*)

### Annual General Meeting

The Eleventh Annual General Meeting of the Section was held on Wednesday, 5th February 1964, in the Lecture Theatre of the Royal Institution, Colquitt Street, Liverpool, 1, at 6.00 p.m.

Approximately forty members attended which was somewhat disappointing, but was in keeping with the average number currently attending meetings.

Copies of the annual report and financial statement were distributed and it was proposed by Mr. T. McLaren, B.Sc. (Vice-President), seconded by Lieutenant Commander G. Kenworthy-Neale, R.N.R., and carried unanimously, that they be adopted.

Four nominations having been received for the four vacancies on the Committee, no ballot was necessary and Messrs. J. H. Lewin, G. T. MacDonald, B. Mead and L. K. Norman, were elected to the Committee.

Commander K. I. Short, O.B.E., D.S.C., R.N., was elected as temporary Honorary Secretary and Mr. H. J. Whitgreave to the office of Honorary Treasurer.

In his survey of the year's activities the Chairman, Mr. J. A. Smith, D.S.C., V.R.D., B.Sc., spoke of the importance of the visit of the Chairman of Council and the Secretary of the Institute to Canada, Australia and New Zealand where they had discussed the formation of local branches. He also touched on the subject of the Engineering Institutions Joint Council, assuring members that their representatives were alive

to the need to safeguard the status of all the members. In conclusion, he commented on the lack of support currently being afforded to local meetings. He said that the Committee's feeling was that members found difficulty in getting to and from the theatre used for lectures. Consideration was given to an alternative venue.

The Chairman thanked the Committee for their loyal support and advised the meeting that it had been unanimously agreed to elect Mr. T. Kameen as Chairman for 1964/65. Mr. Kameen then took the Chair and thanked members for the honour they had shown him in entrusting him with this important office. Mr. Kameen paid tribute to the way in which Mr. Smith had conducted the business of the Section, and expressed the hope that he himself would be able to maintain the high standard set by his predecessors.

The constitution of the Committee for 1964 is as follows:

Vice-President, Liverpool: T. McLaren, B.Sc.  
Corresponding Member, Barrow: R. McVie, B.Sc.  
Corresponding Member, Manchester: J. A. Clay  
Chairman: T. Kameen  
Vice-Chairman: T. E. Jones (Member of Council)  
Committee: R. F. Capey (Member of Council)  
L. Deakin  
G. Keenan (Associate Member of Council)  
Lt. Cdr. G. Kenworthy-Neale, R.N.R. (co-opted 1964/65)  
J. H. Lewin  
G. T. MacDonald  
D. McGruther  
B. Mead  
L. K. Norman  
T. C. Shaw (co-opted 1964/65)  
J. E. Shields (co-opted 1964/65)  
J. A. Smith, D.S.C., V.R.D., B.Sc.  
Honorary Secretary: Commander K. I. Short, O.B.E., D.S.C., R.N.  
Honorary Treasurer: H. J. Whitgreave

\* Published in the May 1963 issue of TRANSACTIONS.  
† Published in the June 1963 issue of TRANSACTIONS.  
‡ Published in the January 1964 issue of TRANSACTIONS.  
§ Published in the August 1963 issue of TRANSACTIONS.  
|| Published in the December 1963 issue of TRANSACTIONS.

### NORTH EAST COAST

The register of the Section is as follows:

	Registered	Non-registered
Members ... ..	296	70
Associate Members ... ..	270	87
Companions ... ..	1	2
Associates ... ..	51	18
Graduates ... ..	52	32
Students ... ..	85	43
Probationer Students	43	23
	798	279

The following meetings were held during 1963:

- 17th January (South Shields) Annual General Meeting followed by "Recent Developments in the Götaverken Oil Engine" by G. Yellowley (Member) and Lars Th. Collin.
- \* 4th March (Newcastle) "Research and Mechanical Engineering at the National Engineering Laboratory" by F. D. Penny, B.Sc. Joint Meeting with the North Eastern Branch of the Institution of Mechanical Engineers.
- † 4th April (Newcastle) "The Application of Planned Maintenance to Steam Turbine Tankers" by J. Scott, D.S.C. (Member) and H. Vickerstaff (Member). (National Productivity Year lecture).

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- ‡ 10th October (Newcastle) "The Application of Free-piston Gas Turbine Machinery to Marine Propulsion" by C. W. Herbert (Member) and G. F. Milne, B.Sc. (Associate Member). Joint meeting with the North Eastern Branch of the Institution of Mechanical Engineers.
- 14th November (Newcastle) "Some Factors Influencing the Life of Marine Crankshafts" by S. Archer, M.Sc. (Member).
- § 21st November (Sunderland) "Marine Electrical Engineering" by D. Gray, B.Sc. (Member).
- § 22nd November (Newcastle) "Marine Electrical Engineering" by D. Gray, B.Sc. (Member).
- § 2nd December (South Shields) "The Closed Feed System" by A. Taylor.
- || 19th December (Newcastle) "Recent Developments in Denny-Brown Ship Stabilizers" by C. C. Mitchell, O.B.E., B.Sc. and H. Volpich, B.Sc. presented by Mr. Volpich.

The average attendance at the meetings was 132.

The North East Coast Section Golfing Society held the following meetings:

- 16th May Spring Meeting at the Ponteland Golf Club, Northumberland.
- 18th September Autumn Meeting at Hexham Golf Club, Northumberland.
- 28th September Joint Golf Match between the North East Coast Section Golfing Society and the Tees-side Branch of the North East Coast Institution of Engineers and Shipbuilders, at Brancepeth Castle Golf Club.

The co-opted member for golf is Mr. C. J. Probett.

A North East Coast Superintendent's Discussion Group has been started in the area by the initiative of Mr. E. C. Cowper (Local Vice-President, Newcastle upon Tyne). This Group is not officially connected with the Section but has the co-operation of the Committee for advice and if required, in regard to meeting places.

Resulting from a representation from the Section, the new office of Local Vice-President, Tees-side, has been created to replace that of Corresponding Member for Middlesbrough. This post embraces the Hartlepoons.

The Annual Dinner and Dance was held on Friday, 1st February, at the Royal Station Hotel, Newcastle upon Tyne. This function was fully patronized and thoroughly enjoyed.

A feature of the year has been the increased co-operation with other institutions in the area, i.e. the North Eastern Branch of the Institution of Mechanical Engineers, The North East Coast Institution of Engineers and Shipbuilders and the National Productivity Council.

Registration with the North East Coast Section ensures personal notification of all local activities without liability. Non-registered members who wish to join the local section should notify the Honorary Secretary.

G. Yellowley (*Chairman*)

A. J. S. Bennett (*Honorary Secretary*)

### Annual General Meeting

The Twelfth Annual General Meeting of the Section was held on Thursday, 16th January 1964, at 6.00 p.m. with Mr. G. Yellowley in the Chair.

The Annual Report was distributed to each member present, the report having previously been approved by the Committee, was accepted by the meeting.

Mr. C. J. Probett gave an interesting report on the activities of the Section Golfing Society, the salient points being those as shown in the annual report.

The Honorary Treasurer, Mr. R. McDonald, B.Sc., read the report of the annual accounts. It was proposed by Mr. E. C. Cowper (Local Vice-President, Newcastle upon Tyne) and seconded by Mr. A. W. Jones, B.Sc., that the accounts be accepted. This was carried unanimously and Mr. McDonald expressed appreciation to Mr. W. Embleton who had kindly audited the accounts.

The following were elected to serve on the Committee: Messrs. J. F. Butler, M.A., J. Orange, M.B.E., J.P., S. Reay, D. H. Sword, B. Taylor, B.Sc., and G. H. Turner.

The Chairman, on behalf of the Section, thanked Mr. W. Embleton and Mr. W. R. Jones the retiring members of Committee, for their services.

The new Committee is as follows:

Local Vice-President, Newcastle upon Tyne:

E. C. Cowper

Local Vice-President, Tees-side: E. T. Middleditch

Corresponding Member, Sunderland: J. G. Gunn, B.Sc.

Chairman: G. Yellowley

Vice-Chairman: D. H. Sword

Committee: M. Adams

P. H. Arthur

J. F. Butler, M.A.

Prof. G. H. Chambers, D.S.C. (Member of Council)

J. E. Church (Member of Council)

W. Francis

W. C. Grant

P. Henry

A. B. Ives

P. Jackson, M.Sc. (Member of Council)

A. W. Jones, B.Sc.

J. Orange, M.B.E., J.P.

C. J. Probett (co-opted)

S. Reay

C. R. Rowcliffe

B. Taylor, B.Sc.

G. H. Turner

C. Wappett

Honorary Secretary: A. J. S. Bennett, M.B.E.

Honorary Treasurer: R. McDonald, B.Sc.

It is regretted that arrangements to bring a coach load of Tees-side members to the Annual General Meeting were cancelled at the last moment owing to there being only eleven applicants.

The Annual General Meeting was followed by a paper entitled "Progress in Automation" by R. Munton, B.Sc. (Vice-President), J. McNaught (Member) and J. N. Mackenzie (Member).

Mr. Yellowley introduced the speaker, Mr. R. Munton, who presented the paper in a polished and skilful manner. A discussion followed which included, amongst others, contributions from Mr. P. Jackson, M.Sc. (Member of Council), Professor G. H. Chambers, D.S.C. (Member of Council), Mr. E. C. Cowper (Local Vice-President), Mr. J. F. Butler, M.A., Mr. B. Taylor, B.Sc. and Mr. W. H. Menzies.

The meeting closed at 8.25 p.m. with a cordial vote of thanks by the Chairman and a round of applause by the members.

\* Published in the July 1962 issue of TRANSACTIONS.

† Published in the May 1963 issue of TRANSACTIONS.

‡ Published in the December 1963 issue of TRANSACTIONS.

§ Junior Lecture.

|| Published in the July 1963 issue of TRANSACTIONS.

### NORTH MIDLANDS

Membership of the Section has again increased slightly during the current year and it is pleasing to report continued increase in the activities of the Section.

Current membership figures are as follows:

	Registered	Non-registered
Members ... ..	76	25
Associate Members ...	51	43
Companions ... ..	1	—
Associates ... ..	19	12
Graduates ... ..	16	8
Students ... ..	13	24
Probationer Students	12	22
	188	134

## Annual Report of the Council for 1963

The programme for the year was varied and interesting and included the following activities:

- 16th January (Sheffield) Annual General Meeting followed by a visit to English Steel Co. Ltd.  
13th March (Leeds) Visit to Yorkshire Imperial Metals Ltd.  
3rd April (Sheffield) "Metallurgy in Marine Engineering" by J. E. Garside, M.Sc., Ph.D.  
\* 15th May (Derby) "Some Aspects of Noise Reduction in Merchant Ships" by R. Cook, M.Sc. (Member of Council) and N. Fleming, M.A.  
16th October (Derby) Visit to Lubrizol International Laboratories.  
11th December (Sheffield) "Some Factors Influencing the Life of Marine Crankshafts" by S. Archer, M.Sc. (Member).

By kind permission of the Cunard Steamship Co. Ltd., a visit was made to s.s. *Sylvania* in Liverpool on 24th September. Forty-two members, wives and friends left Sheffield at 9.30 a.m. and proceeded via Woodhead, Manchester, to Woolton in Cheshire. Several members who had travelled by car joined the party at Reynolds Park where lunch was provided and here the Chairman of the Merseyside and North Western Section, Mr. J. A. Smith, D.S.C., V.R.D., B.Sc., and Mrs. Smith, welcomed the party to Liverpool. After an excellent lunch the party proceeded to Huskisson Dock and boarded the s.s. *Sylvania* where members were taken by guides to the engine room and the ladies to view the accommodation.

It was well worth the effort of organizing the visit to see the older members taking in the old familiar atmosphere in the engine room and probably making comparisons with the machinery they knew years ago. The ladies enjoyed looking into cabins, suites and public rooms, after which the party met in the music room for afternoon tea.

Mr. J. W. Batey (Chairman of the Section) proposed a vote of thanks to the owners, and to Mr. T. Kameen and his staff, the pursers and stewards, which was endorsed by all present.

The coach party then went to New Brighton via the Mersey Tunnel, then home via Chester and Chapel-en-le-Frith. This was certainly an occasion that was enjoyed by all.

In concluding the annual report the Honorary Secretary thanked the Chairman and members of the Committee for their support during the past year and in particular the retiring members of Committee, Mr. A. M. Jarvis (Vice-Chairman of the Section) and Mr. A. S. Lawrie.

J. W. Batey (*Chairman*)  
F. H. Soppitt (*Honorary Secretary*)

### Annual General Meeting

The Fourth Annual General Meeting of the Section was held on Wednesday, 15th January 1964, in Sheffield. Mr. J. W. Batey (Chairman of the Section) was in the Chair and twenty-five members attended.

The annual report and financial statement were presented and approved.

The Chairman introduced the following newly elected members of Committee: Messrs. H. V. Campbell, F. A. Hay, B.Sc., C. W. Parris, J. C. Proudfoot, A. Ramage and G. Wilkinson.

The Chairman in his address thanked the Committee for their support during the past year and particularly Mr. A. M. Jarvis (Vice-Chairman) and Mr. A. S. Lawrie who were retiring from the Committee having served for the permitted period of three years. Reviewing the past year Mr. Batey said that the standard of the activities of the Section had been of a very high order and that attendances showed continued interest.

A vote of thanks to the Chairman was proposed by Mr. H. V. Campbell and carried by acclamation.

The constitution of the Committee for 1964 is as follows:

Chairman: J. W. Batey  
Vice-Chairman: H. V. Campbell

Committee: F. A. Hay, B.Sc.  
E. C. Hayes  
C. W. Parris  
G. Prentice  
J. C. Proudfoot  
A. Ramage  
L. R. G. Sayer  
V. Wales  
G. Wilkinson

Honorary Secretary: F. H. Soppitt  
Honorary Treasurer: Y. Arakie

Following the meeting the members were entertained by the Directors of Ambrose Shardlow Limited, and were taken for a conducted tour of the works. The many and varied operations in the making of internal combustion engine crankshafts were witnessed, from the forge to the balancing of the finished crankshaft.

After the tour members were entertained by Mr. J. C. Proudfoot (Managing Director), and members of his staff. A vote of thanks to the Director and guides for an extremely interesting evening was proposed by Mr. Batey and endorsed by all present.

\* Published in the June 1963 issue of TRANSACTIONS.

### SCOTTISH

The total membership of the Section continues to increase and now stands at 1,301, consisting of 908 registered members and 393 non-registered members.

Both Mr. D. J. Coppin and Mr. A. W. Clark resigned due to their leaving the area and Mr. G. Victory and Mr. H. Brady were co-opted on to the Committee.

Joint meetings were held with the Institution of Engineers and Shipbuilders in Scotland and with the Aberdeen Mechanical Society.

The Ninth Annual Dinner was held on Friday, 15th February 1963 and the Seventh Dinner and Dance on Saturday, 14th December 1963. Both these functions were very successful.

The following papers were presented during 1963:

- 9th January (Glasgow) "Sea Trials Procedure for Establishment of Ship's Machinery Performance" by G. R. Strachan, M.A. (Associate Member).  
6th February (Glasgow) "The Clyde Drydock Project" by J. W. Dagleish (Member).  
22nd March (Aberdeen) "Recent Developments in Trawler Design" by J. Wright.  
9th October (Glasgow) "Use of Models in Engineering Design" by E. Holmes.  
30th October (Glasgow) "Marine Electrical Engineering" by A. C. Bailey, B.Sc.  
13th November (Glasgow) "The Possibilities of Modern Medium Speed Engines for Marine Propulsion" by S. H. Henshall, B.Sc. (Member).  
11th December (Glasgow) "Pametrada Standard Marine Turbines: the present position and future outlook" by R. Coats.

The average attendance at Glasgow senior meetings was 90: the attendance at the junior meeting on 30th October was 36.

L. D. Trenchard (*Chairman*)  
J. A. Lazaras (*Honorary Secretary*)

### Annual General Meeting

The Annual General Meeting of the Section was held on Wednesday, 5th February 1964, at the Institution of Engineers and Shipbuilders in Scotland, 39 Elmbank Crescent, Glasgow, C.2 at 6.00 p.m.

Mr. L. D. Trenchard (Chairman of the Section) presided, and welcomed the sixty-five members present.

The annual report and balance sheet for 1963 which had been previously circulated to all members, were approved, but Mr. R. Beattie felt there was still a need for a further reminder to non-registered members to register. The Chairman

## Annual Report of the Council for 1963

replied that the Committee have this very much in mind and although the onus was on the member to register it was agreed to ask London to notify each member in a letter about the advantages and benefits to be gained in registering with the Section.

The Chairman intimated that one auditor would be required to take the place of Mr. T. H. Smeaton who was now a member of Committee. Mr. A. Campbell agreed to accept this office and Mr. H. C. Kemp to continue as auditor for another year as did the Scrutineers Mr. J. B. Stewart and Mr. W. Paterson.

A formal vote of thanks to the members of the Committee for their past year's work was proposed by Mr. R. Beattie mentioning in particular the retiring members, Mr. D. W. Low, O.B.E. (Vice-President) and Mr. L. D. Trenchard (Chairman of the Section). Mr. Beattie went on to say that the Section had been fortunate in having Mr. Trenchard who had undertaken the office of Chairman at such short notice and has rendered great service during the past year.

The Chairman announced that as only eight nominations had been received for the eight vacancies no ballot was necessary. The following were therefore elected to serve on the Committee: Messrs. R. Beattie, H. Brady, J. A. Lazaras, T. W. Liddell, M. G. Macgregor, B.A., T. McI. Murdoch, I. B. Smail, B.Sc. and T. H. Smeaton.

Mr. R. Marshall and Mr. J. D. B. Mundie were formally re-elected as Treasurer and Assistant Secretary respectively. For business reasons Mr. J. A. Lazaras is unable to accept re-election as Honorary Secretary and Mr. L. D. Trenchard has been pleased to accept this office.

A vote of thanks to Mr. Lazaras for the efficient way in which he has carried out his duties in the past year was aptly proposed by Mr. D. S. Macfarlane.

The Officers and Committee for 1964 are as follows:

Vice-President: D. W. Low, O.B.E.

Corresponding Member, Aberdeen: A. C. West, B.Sc., Ph.D.

Corresponding Member, Dundee: W. O. Gardiner

Corresponding Member, Greenock: J. A. Conn

Corresponding Member, Leith: H. Robb

Chairman and Honorary Secretary: L. D. Trenchard

Vice-Chairman: Cdr. A. J. H. Goodwin, O.B.E., R.N.

Committee: R. Beattie

H. Brady

C. A. Creber

J. Gillespie

J. A. Lazaras

T. W. Liddell

W. Lochridge

M. G. Macgregor, B.A.

T. McI. Murdoch

I. B. Smail, B.Sc.

T. H. Smeaton

Honorary Assistant Secretary: J. D. B. Mundie

Honorary Treasurer: T. Marshall

The meeting was then declared open for any member to raise any questions about the Section's activities, etc., but none was raised.

At the conclusion of the meeting the Chairman gave an address on "Welded Pressure Vessels in Marine Installations" which was very well illustrated by slides and proved of great interest to those present.

Commander A. J. H. Goodwin, O.B.E., R.N. (Vice-Chairman of the Section) proposed a vote of thanks to Mr. Trenchard for such an enlightening and advanced paper and this was carried enthusiastically.

### SOUTH EAST ENGLAND

The first year's activities of the Section brought gratifying results. The list of registered members continues to increase, but a large number of members of the Institute resident in Kent have not registered with the Section due to the mistaken impression that registration will involve an additional fee.

The membership list as on 31st December 1963 is as follows:

	<i>Registered</i>	<i>Non-registered</i>
Members ... ..	90	143
Associate Members ...	68	92
Associates ... ..	26	42
Graduates ... ..	15	21
Students ... ..	9	48
Probationer Students	4	35
	212	381

The following senior meetings were held in Gravesend:

15th January First Annual General Meeting followed by "Care and Maintenance of Watertube Boilers" by W. R. Harvey, O.B.E. (Member of Council).

19th March "Heat Exchangers—Design Aspects to avoid Corrosion" by C. H. Pattman.

21st May "Gas Turbines" by J. W. Hawkins.

15th October "Present Marine Machinery Trends and Other Cognate Matters" by C. C. Pounder (Past President).

3rd December "Advanced Nuclear Marine Propulsion Plant, based on n.v. *Savannah*" by A. J. Taylor.

The following junior meeting was held at the Medway College of Technology, Chatham:

30th October "The Layout and Operation of Marine Steam Turbine Machinery" by D. M. V. Parkinson, M.V.O. (Member).

On Sunday, 23rd June 1963, members made a technical visit to Bradwell Nuclear Power Station.

A high standard of lecture subject matter was attained, as was to be expected bearing in mind the eminence and experience in their professions of the authors. Attendance of members and visitors at the lectures ranged from forty to eighty, partly dependent on weather conditions, but also influenced by the subject chosen for the lecture.

The Section is appreciative of the co-operation of Mr. H. R. Orr and Mr. Tucker, Principal and Senior Lecturer respectively, of the Medway College, in the arrangements for the junior meeting.

Similar appreciation is also due to Mr. R. J. Weekes, Station Superintendent of Bradwell, and Mr. Evans and Mr. Vowles, senior members of his staff, regarding the official visit of the Section to their Station.

The First Dinner and Dance was held on Friday, 15th November 1963, at the Gravesend Masonic Hall. One hundred and thirty-five members, ladies and guests were present and had an enjoyable evening. Principal guests of the Section were Mr. W. Young, C.B.E. (Vice-Chairman of Council) and Mrs. Young, and Mr. A. Logan, O.B.E. (Vice-President) and Mrs. Logan.

G. F. Forsdike (*Chairman*)

J. Haddock (*Honorary Secretary*)

### *Annual General Meeting*

The Second Annual General Meeting of the Section was held on Tuesday, 28th January 1964, at the Clarendon Royal Hotel, Gravesend, with Mr. G. F. Forsdike (Chairman of the Section) in the Chair.

Mr. J. McNaught (Member) and Mr. J. N. Mackenzie (Member) were appointed as Scrutineers for the ballot for election to the Section Committee.

The Chairman in his report said that he had great pleasure in welcoming all those present to hear a brief resumé of the Section's activities during the past year.

Firstly, he wished to thank very warmly, the Honorary Treasurer, the Honorary Secretary and Committee for their most valued help and guidance during his year of office.

There had been several very interesting and illuminating lectures and it was intended to continue lectures during the next twelve months. A successful Dinner and Dance had

## Annual Report of the Council for 1963

been held and the Chairman hoped that members would enjoy many more social evenings. Frequent Committee meetings have been held and he has also had the pleasure of representing the Section at Council Meetings.

In concluding, Mr. Forsdike asked for the continued support and assistance in enlisting more members.

It was proposed by Lieutenant N. H. Card, R.N. and seconded by Mr. J. A. Andrews that the Chairman's report be approved, this was carried by the meeting.

The annual report and the balance sheets were read and approved. The Scrutineers reported on the ballot, which showed that Messrs. A. G. Beavan, R. S. Cadenhead, W. K. Mabbett and J. T. Parsons were elected to serve on the Committee. There being no other nominations Mr. A. H. Stobbs and Mr. J. Haddock were re-elected as Honorary Treasurer and Honorary Secretary respectively.

The Committee is constituted as follows:

Chairman: G. F. Forsdike  
 Vice-Chairman: *To be appointed*  
 Committee: J. S. Allan  
           J. A. Andrew  
           A. G. Beavan  
           R. S. Cadenhead  
           R. H. Cadle  
           Lieut. N. H. Card, R.N.  
           S. G. Cracknell  
           A. E. Franklin  
           J. Heighway  
           W. K. Mabbett  
           J. T. Parsons

Honorary Secretary: J. Haddock  
 Honorary Treasurer: A. H. Stobbs

The question of the ratio of registered to non-registered members residing in the area of the Section, was raised together with a suggestion that a further letter could be sent to all non-registered members, inviting registration.

The Honorary Secretary said that this could be done but only with assistance from Headquarters. All members in the area had received at least two letters on this subject during the past fifteen months. The number of registrations showed a slow increase of late. If every registered member obtained the registration of a non-registered member, the ratio would soon become favourable.

Following the Annual General Meeting a paper entitled "Progress in Automation" by R. Munton, B.Sc. (Vice-President) J. McNaught (Member) and J. N. Mackenzie (Member) was presented by Mr. McNaught and Mr. Mackenzie. The forty members and guests received the paper with great attention and a measure of the interest shown in the subject was the large number of questions asked. These were all dealt with very ably by Mr. McNaught or Mr. Mackenzie either separately or conjointly, to the satisfaction of all concerned.

A vote of thanks to the speakers was proposed by Mr. Forsdike and was received by acclamation.

### SOUTH WALES

The membership of the Section stands at 241 registered members and 105 non-registered members. Whilst this is a decrease on last year's figures, it is encouraging to note that more than two-thirds of the total are registered with the Section. The year 1963 saw the loss of the only Companion in the Section by the death of The Right Honourable Lord Leighton of St. Mellons, C.B.E., V.L., J.P.

The membership figures are as follows:

	Registered	Non-registered
Members ... ..	98	20
Associate Members ...	74	29
Associates ... ..	15	4
Graduates ... ..	12	9
Students ... ..	25	30
Probationer Students	16	13
	241	105

- During the year the following meetings were held:
- \* 21st January (Cardiff) "Watchkeeping in a Motor Ship" by S. Speed (Member).
  - 4th February (Cardiff) "Non-destructive Testing" by A. S. Minton (Associate).
  - † 26th February (Swansea) "Machinery Induced Vibrations" by A. J. Johnson, B.Sc. (Eng.), Ph.D., A.C.G.I. and W. McClimont, B.Sc. (Member).
  - 25th March (Cardiff) "The Manufacture of Chain Cable and Anchors" by R. J. Richardson and G. Munday.
  - 7th October (Cardiff) "Air Cushioned Vehicles" by G. C. Keen.
  - \* 25th October (Swansea) "Marine Boilers" by W. Wilson.
  - 25th November (Cardiff) "Some Factors Influencing the Life of Marine Crankshafts" by S. Archer, M.Sc. (Member).

The Annual Golf Meeting was held on Friday, 14th June 1963, at the Glamorganshire Golf Club, Penarth. An enjoyable evening was spent by the fifty members and guests who attended. The David Skae Cup was won by Mr. H. L. Watkins (Member) and the Visitor's Tankard, presented by J. Elliott Morgan (Member), was won by L. H. Emery.

The Annual Dinner of the Section was held on Friday, 8th November 1963, at the Royal Hotel, Cardiff, when 170 members and guests attended. Among the guests were Mr. W. Young, C.B.E. (Vice-Chairman of Council) and Mr. M. J. Pearce, F.C.A., representing London, and representatives of many of the foremost shipping companies were present.

R. A. Simpson (*Chairman*)  
 T. C. Bishop (*Honorary Secretary*)

### Annual General Meeting

The Twelfth Annual General Meeting of the Section was held on Monday, 6th January 1964, at the South Wales Institute of Engineers, Park Place, Cardiff, at 6.00 p.m.

The Chairman of the Section, Mr. R. A. Simpson, presided at the meeting and welcomed the thirty members present.

Before reading his report the Chairman asked members to stand as a mark of respect to Lord Leighton.

In his report the Chairman was pleased to say that the interest and support of the Swansea members had been well maintained in 1963 and the numbers travelling from Swansea to the Cardiff lectures have amply justified the hiring of coaches for transport. He was particularly pleased with the goodly attendance of student members from the Swansea Technical College, and expressed his thanks to Dr. Cowie, Principal of the College, for his interest.

Attendances at the lectures have again shown improvement on previous figures and it was to be hoped this trend will continue. The provision of light refreshments prior to the lectures has been well received and he thought this facility should continue. The general standard of lectures has been exceptionally good. He expressed thanks to the Lecture Committee who have given great thought in compiling the programme.

The financial report was read by Mr. G. K. Beard, Honorary Treasurer, and approved by the meeting.

Mr. R. H. Rees and Mr. F. F. Richardson were appointed to act as Scrutineers for the ballot for the two vacancies on the Committee. Messrs. F. R. Dale and N. C. James were elected to serve on the Committee in place of Mr. W. S. Holness who is moving from the area, and Mr. H. S. W. Jones who retires after serving for three years.

The newly constituted Committee for 1964 is as follows:

Vice-President: D. Skae  
 Corresponding Member, Swansea: R. A. Simpson  
 Chairman: T. C. Bishop  
 Committee: W. E. Brennan  
           T. G. Bullen  
           F. R. Dale, B.Sc.  
           S. J. French  
           N. C. James, B.Sc.



## Annual Report of the Council for 1963

J. McE. Kay  
 J. E. Morgan  
 D. Ormiston  
 P. A. Ridyard  
 H. F. Widdas  
 J. Wormald, B.Sc.

Honorary Secretary: H. G. Wickett, M.B.E.

Honorary Treasurer: G. K. Beard

On behalf of the meeting, the Chairman offered a vote of thanks to Mr. Beard for his unflinching diligence in administering the financial matters of the Section and to Mr. Wickett for his ready acceptance to undertake the duties of Honorary Secretary.

Mr. Simpson paid especial tribute to the way in which Mr. Bishop had dealt with the affairs of the Section during the years that he had been Honorary Secretary. In the past year Mr. Bishop had also acted as Vice-Chairman and he was grateful to him for the wonderful co-operation that he had afforded him during his year in office.

\* Junior Lecture.

† Published in the April 1963 issue of TRANSACTIONS.

### SOUTHERN JOINT BRANCH R.I.N.A. AND I.M.A.R.E.

This year has seen no change in the senior officers of the Branch. It is very fortunate indeed that despite his move to Bath, Mr. R. N. Newton, R.C.N.C., has continued as President and has found time to attend the meetings and social functions of the Branch and to give it the benefit of his experience in Council.

Mr. D. R. Todd, M.B.E., was re-elected Chairman of Council and the two new members elected to the Council are Mr. J. Savory and Mr. T. E. Thornycroft, B.A.

The following papers were read:

17th January	(Southampton) "The Welding of Pressure Vessels" by R. Parker.
19th February	(Southsea) "Fibreglass Boats" by G. Kingslake.
25th March	(Southampton) "Hovercraft" by W. A. Pennington, B.Eng. (Mech.)
26th September	(Southsea) "The Production of a 30-ton Propeller" by A. L. Wakeling and A. R. Bennett.
15th October	(Southampton) "Modern Shipyard Practice" by J. T. Y. Milne.
21st November	(Southsea) "The General Aspects of Ships' Stabilizers" by Cdr. P. Du Cane, C.B.E., R.N.

The attendance at meetings continued at the very high rate of between sixty and over a hundred and the Branch was indebted to the authors for maintaining a high standard of papers and discussions.

A visit was made by the Branch to the Submarine Establishment, H.M.S. *Dolphin*.

The Annual Dinner and Dance was held on Friday, 22nd February 1963, and the Annual Dinner was held on Friday, 18th October. The guest of honour at the last function was Mr. H. N. Pemberton, Chief Engineer Surveyor to Lloyd's Register of Shipping, who was welcomed as a friend of the Branch of many years' standing.

### WEST OF ENGLAND

Membership of the West of England Section at 31st December 1963, was as follows:

	Registered	Non-registered
Members ... ..	117	9
Associate Members ...	59	17
Associates ... ..	26	5
Graduates ... ..	18	6
Students ... ..	17	12
Probationer Students	15	4
	-----	-----
	252	53
	-----	-----

The level of membership has all but been maintained, there being a total of 305 as against 313 in 1962. Members are constantly leaving and others joining and a marginal difference fluctuates from month to month.

During the year the Section suffered the loss by death of two of its members, Mr. D. W. Gelling, Local Vice-President, Bristol, and Mr. R. Redwood, M.B.E.

Mr. F. C. Tottle, M.B.E., was appointed Local Vice-President in succession to Mr. Gelling and took office in September. In May, the Chairman of the Section, Captain R. G. Raper, R.N., had to relinquish the Chairmanship owing to a new appointment outside the area covered by the Section. The Vice-Chairman at that time, Captain A. C. W. Wilson, R.N., took over as Chairman.

The full list of papers or lectures presented during 1963 is as follows:

* 11th February	(Bath) "Progress and Development in Naval Propulsion Gears 1946-1962" by Cdr. P. D. V. Weaving, R.N. (Member) and W. Sampson (Member).
† 11th March	(Bristol) "The Application of Planned Maintenance to Steam Turbine Tankers" by J. Scott, D.S.C. (Member) and H. Vickerstaff (Member).
‡ 3rd April	(Bath) "Launching of Ships" by R. S. Hogg (Member).
§ 14th October	(Bath) "Progress in Automation" by R. Munton, B.Sc. (Vice-President), J. McNaught (Member) and J. N. Mackenzie (Member).
11th November	(Bristol) "The Design and Development of Two-drum Marine Boilers" by E. G. Hutchings, B.Sc. (Member).
¶ 9th December	(Bath) "Recent and Notable Ship Fires and Explosions" by A. S. Minton (Associate).

The average attendance at these meetings was 29.2, a decrease of 3.5 over last year. This was mainly due to extremely adverse weather conditions in the early part of the year, because the average attendance in the latter part of the year which constituted the first half of the 1963/64 session, was 34.3.

Mr. D. G. Evans (Student), who fulfilled the requirements for the Lloyd's Register of Shipping Award for 1964, was nominated by the Committee to represent the Section.

By the courtesy of Hamworthy Engineering Ltd., a party of 34 members, together with their ladies and guests, made a visit to the Fleets Corner Works, at Poole in Dorset, on Thursday, 16th May 1963. The party greatly appreciated the warm welcome and hospitality shown by the Company. During the afternoon the ladies were taken on a tour of the local beauty spots, whilst the members had a most interesting tour of the works.

The Fourth Annual Dinner and Dance was held on Friday, 11th October 1963, at the Grand Hotel, Bristol, where the principal guests were Sir Nicholas Cayzer, Bt., President of the Institute, and Lady Cayzer. Guests were welcomed by the Chairman of the Section, Captain A. C. W. Wilson, R.N., and Mrs. Wilson, and the function was an outstanding success, being thoroughly enjoyed by the members, their ladies and guests, totalling 160 in all.

A. C. W. Wilson (*Chairman*)

M. R. Goodacre (*Honorary Secretary*)

### Annual General Meeting

The Ninth Annual General Meeting of the Section was held at Queen's Buildings, University of Bristol, on Monday, 13th January 1964, at 7.30 p.m. Captain A. C. W. Wilson, R.N. (Chairman of the Section) presided and twenty-six members were present, including Mr. F. C. Tottle, M.B.E. (Local Vice-President).

In his address, the Chairman spoke of the activities of the Section during 1963 and of the successful year it had been. He was grateful to all members for the interest shown and for the backing they had given him. The attendance of the Com-

## Annual Report of the Council for 1963

mittee during the year had been extremely regular, and had been a great help to the Section's functions.

The papers presented had been most interesting and attendance during the Autumn Session had increased, although generally speaking the numbers could be improved upon. The Institute appreciated any endeavour to get the numbers up and attendances at meetings when papers were being read was the meat of the whole performance.

The Chairman spoke of the sadness which prevailed in the Section because of the untimely death of Mr. D. W. Gelling, who had been the Local Vice-President for Bristol since 1953. Mr. Gelling's work in the area had been much appreciated, and an Obituary by Captain R. G. Raper had been printed in the June 1963 issue of Transactions. At this point the Chairman officially welcomed the new Local Vice-President, Mr. F. C. Tottle, M.B.E.

Speaking of the Annual Dinner and Dance, Captain Wilson said that it had been as great a success as could have been hoped for. The Grand Hotel, Bristol, provided an excellent setting for this function and the move from the Royal Hotel, the previous venue, had been very successful. The Section had been fortunate in having as principal guests the President of the Institute, Sir Nicholas Cayzer, Bt., and Lady Cayzer, and it had indeed been a great honour for the Section. He thanked the Chairman and Secretary of the Social Committee, Cdr. R. M. Inches, R.N., and Mr. D. V. Hyde, respectively, also the Social Committee, Messrs. G. B. Dawson, W. C. Atkinson, A. G. A. Muirhead and J. P. Vickery, for the tremendous effort they had put into making the function a success.

Speaking of a proposed joint branch between the West of England Section and the Royal Institution of Naval Architects in the area, the Chairman said this was still very much in the air. He had obtained approval from Headquarters to pursue this idea, providing the membership of a joint branch was made up in such a way that R.I.N.A. members constituted not less than thirty per cent of Institute members. However, it had been established that R.I.N.A. did not intend to form a branch in the area at this stage and the Committee had finally decided it was too early to make a decision. The Chairman agreed with the Committee on this point and felt that two or three years more were needed for consideration. It was asking too much of the Section to eliminate all personal integrity and submerge all its work and efforts to this end.

In concluding his address, Captain Wilson said how pleased and proud he had been to have held the office of Chairman during the last nine months. He had endeavoured to do his duty well and hoped the members of the Section were satisfied with what he had done.

Eleven nominations had been received for the seven vacancies on the Committee which showed that the interest in the Section was keen. A ballot had been taken and the Chairman thanked the Scrutineers, Mr. G. B. Dawson and Mr. D. V. Hyde.

Cdr. C. W. T. Saunders, D.S.C., R.N., having served for three years on the Committee, would retire at the end of the meeting and was not eligible for re-election. Messrs. J. P. Vickery and C. T. Parsons having been co-opted for one year would also retire, but would be eligible for re-election. Cdr. R. M. Inches, R.N., had resigned owing to moving from the area. Captain Wilson paid tribute to those retiring members of Committee and thanked them for the work they had done in the past.

The annual report and financial statement were read and adopted, and the Chairman thanked the Honorary Secretary and Honorary Treasurer for the work they had done during the year.

Lieutenant-Commander A. N. S. Burnett, R.N., proposed a vote of thanks to the Chairman in which he paid tribute to the charming and successful manner in which Captain Wilson had carried out his many duties. Captain Wilson had conducted the Committee work in a very pleasant and congenial manner and it had been a pleasure to work with him. Mr. J. P. Vickery said he had much pleasure in seconding the motion

and would like to reiterate all that had been said by Lieutenant-Commander Burnett. The motion was carried by acclamation.

Mr. A. G. A. Muirhead then proposed a vote of thanks to Mr. F. C. Tottle, M.B.E., the new Local Vice-President for Bristol. He spoke of the good work that he had done for the Institute since the inception of the West of England Section in 1953. Mr. J. E. Gander seconded the motion which was carried in the usual manner.

In his reply, Mr. Tottle thanked the members for their kind words and the Section for electing him to this office.

Finally, a tribute was paid by Mr. T. A. Mogg, to both the Honorary Secretary and the Honorary Treasurer for their hard work during the past year. This was seconded by Mr. J. E. Goodier and carried in the usual way.

At a meeting of the Committee held after the Annual General Meeting, Captain A. C. W. Wilson, R.N., was re-elected Chairman of the Section, and Mr. J. P. Vickery, Vice-Chairman.

The Committee for 1964 is therefore, constituted as follows:

Local Vice-President: F. C. Tottle, M.B.E.  
 Chairman: Capt. A. C. W. Wilson, R.N.  
 Vice-Chairman: J. P. Vickery  
 Committee: Lt. Cdr. A. N. S. Burnett, R.N.  
           G. B. Dawson  
           J. E. Gander  
           Cdr. A. A. C. Gentry, R.N.  
           J. B. Goodier  
           D. V. Hyde  
           T. A. Mogg  
           A. G. A. Muirhead  
           R. V. Raine  
           R. K. Roberts  
           C. W. J. Stow  
           R. C. Thomas  
           R. Yarr  
 Honorary Secretary: M. R. Goodacre  
 Honorary Treasurer: W. C. Atkinson

\* Published in the March 1963 issue of TRANSACTIONS.

† Published in the May 1963 issue of TRANSACTIONS.

‡ Junior Lecture.

§ Published in the September 1963 issue of TRANSACTIONS.

|| Published in the February 1963 issue of TRANSACTIONS.

¶ Published in the July and August issues of the Supplement to TRANSACTIONS.

### WEST MIDLANDS

Since last year there has been a very slight increase in the membership of the Section, the total having increased from 353 to 358. The most encouraging fact, however, is that the number of registered members has increased and it is hoped that those members who have still not registered with the Section will do so at the earliest opportunity by communicating with the Honorary Secretary.

The analysis of the present membership is as follows:

	Registered	Non-registered
Members ... ..	72	41
Associate Members ...	73	54
Associates ... ..	22	6
Graduates ... ..	14	14
Students ... ..	18	27
Probationer Students	8	9
	207	151

Four meetings were held during the year for the presentation of the following papers:

24th January "Bristol Siddeley Olympus Turbo Generator Sets" by W. H. Lindsey, M.A.

\* 21st February "Some Aspects of Noise Reduction in Merchant Ships" by R. Cook, M.Sc. (Member of Council) and N. Fleming, M.A.

## Annual Report of the Council for 1963

- 21st March "Electronic Supervision of Ships' Machinery" by G. S. Kermack, B.Sc.  
 24th October "Experiences in the Design of Marine Water Tube Boilers" by L. J. Culver, B.Sc. (Eng.) (Member).

It is most gratifying to note that the average attendance of members and guests at each meeting has increased to forty-five, and it is hoped that with the new facilities offered by the Engineering and Building Centre, Broad Street, Birmingham, the Section will continue to have increasing support for the lectures. Light refreshment before all lectures is now provided and it is hoped that this will encourage members travelling from a distance to attend.

In addition to the above lectures, an afternoon visit was arranged to the Production Engineering Research Association at Melton Mowbray on Thursday, 5th September 1963. This visit was well attended and commenced with an introductory film entitled "P.E.R.A. Activities" which was followed by a conducted tour of the research workshops and laboratories.

The Eleventh Annual Dinner was held at the Queens Hotel, Birmingham, on Thursday, 14th November 1963, under the Chairmanship of Mr. R. R. Gilchrist, M.A. (Chairman of the Section). The members and guests present numbered 148.

The Section was honoured by the attendance of the President of the Institute, Sir Nicholas Cayzer, Bt., Mr. W. Young, C.B.E. (Vice-Chairman of Council) and Mr. A. E. Franklin (Assistant Secretary of the Institute).

Amongst the guests were Mr. A. B. Smith, Director and General Manager of the Rover Co. Ltd., Mr. W. H. Lindsey, M.A., Technical Director of Bristol Siddeley Engines Ltd., Mr. J. W. Laing, Chief Engineer, G.E.C., Witton, and Captain H. D. Nixon, M.V.O., R.N., Admiralty Engineer Overseer, Midland Region.

It was pleasing to report that the attendance on this informal occasion was by far the greatest, and it is hoped that this trend will continue and will reflect throughout the whole activities of the Section.

R. R. Gilchrist (*Chairman*)  
 J. H. Gilbertson (*Honorary Secretary*)

### Annual General Meeting

The Eleventh Annual General Meeting of the Section was held at the Engineering and Building Centre, Broad Street, Birmingham, on Thursday, 23rd January 1964, at 5.45 p.m. Mr. R. R. Gilchrist, M.A. (Chairman of the Section) was in the Chair and nine members attended the meeting.

Apologetic for absence were received from the Local Vice-

President, Mr. H. E. Upton, O.B.E., and Messrs. K. H. Harrison, H. E. Muckley, and R. S. Robinson, B.Sc.

In presenting his report the Chairman was pleased to report that the membership of the Section was still increasing, although there was still a large proportion of members who remained unregistered. He suggested that these members should contact the Honorary Secretary so that they could take advantage of the benefits of registration as an active member of the Section.

The Chairman commented on the increased attendance at lectures and hoped that with the new facilities and amenities now offered at the Engineering and Building Centre, the Section would maintain the progress made since the move to these new premises.

The statement of accounts was then submitted. The meeting approved the motion proposed by Mr. G. H. Cornish, B.Eng., and seconded by Mr. G. C. Holland, that these accounts be adopted.

The Chairman thanked the Committee for the help and support given to him during the past year, and in particular the retiring members, Messrs. A. L. Cramb, H. E. Muckley and R. S. Robinson, B.Sc.

In the absence of further nominations Mr. J. H. Gilbertson and Mr. K. H. Harrison were returned as Honorary Secretary and Honorary Treasurer respectively.

Only two nominations were received for the vacancies on the Committee. Both Mr. H. C. R. Trewman and Mr. J. R. Cotterill, J.P., were re-elected due to the fact that they were co-opted to the Committee during the year.

The Committee for the ensuing year is as follows:

Local Vice-President, Birmingham: H. E. Upton, O.B.E.

Chairman: R. R. Gilchrist, M.A.

Vice-Chairman: G. H. Cornish, B.Eng.

Committee: J. W. Bell

G. G. Connor

J. R. Cotterill, J.P.

H. C. R. Trewman

Honorary Secretary: J. H. Gilbertson

Honorary Treasurer: K. H. Harrison

The proposing of people for membership to the Institute was discussed and it was agreed that the matter should be referred to Head Office.

Mr. R. S. Robinson expressed the thanks of the Section, to the Chairman for the admirable way in which he has served the Section, which was appreciated by all those concerned.

\* Paper published in the June 1963 issue of TRANSACTIONS.

## OVERSEAS

### CANADIAN DIVISION ATLANTIC

The Section is maintaining its growth and continues to hold the interest of members in the area and it is pleasing to note the increase in registered members.

The membership now stands as follows:

	<i>Registered</i>	<i>Non-registered</i>
Members ... ..	44	7
Associate Members ... ..	27	6
Associates ... ..	9	4
Graduates ... ..	6	1
Students ... ..	3	—
	89	18

Meetings were held in the R.C.N. Dockyard Management Association Building, Halifax, N.S., as follows:

- 15th February "An Introduction to Nuclear Energy" by Lt. Cdr. M. R. Kent, R.C.N. (Member).  
 15th March "Residual Oils for Fuel in Steam and Motor Vessels" by J. H. Rensink.

19th April "Progress in Shipboard Instrumentation" by M. Duclos.

18th October "The Manufacture and Repair of 'Maxim' Type Evaporator Baskets" by J. Martin (Associate).

14th November A colour film—Turbine Rotor Forging and Manufacture with a summary by Cdr. E. F. Williams, R.C.N.

Attendances at lectures were most encouraging and undoubtedly appreciated by the speakers.

The Annual Social Evening was held at Oakwood House, Dartmouth, on Friday, 24th May. The event again proved most popular and was well supported, some ninety-five members and guests being present.

On Friday, 21st June 1963, the Annual Golf Tournament for the Howard Rogers Cup was held at Brightwood Golf and Country Club, Dartmouth. Due to inclement weather no member managed to complete more than eight holes and therefore the Cup was not awarded this year. However, attending members enjoyed the comforts of the Brightwood Clubhouse.

## Annual Report of the Council for 1963

The Section was honoured by a visit by Commander F. M. Paskins, O.B.E., R.D., R.N.R. (Chairman of Council) from 11th to 13th October. A reception for Commander and Mrs. Paskins was held on the evening of Saturday, 12th October, at which members and their ladies were presented to the distinguished visitors.

L. M. Mathers (*Chairman*)  
G. C. Johnson (*Honorary Secretary*)

### Annual General Meeting

The Annual General Meeting of the Atlantic Section was held on Friday, 10th January 1964, at the R.C.N. Dockyard Management Association Building, Halifax, N.S., at 8.00 p.m.

Chairman of the Section, Mr. L. M. Mathers, presided at the meeting attended by 28 members and called for one minute's silence in honour of the late Mr. H. S. Salt.

The annual report and financial statement were read and approved unanimously.

Mr. A. Cain and Mr. R. Smythe were appointed as Scrutineers for the ballot for the two vacancies on the Committee to replace Mr. L. M. Mathers and Lt. Cdr. M. R. Kent, R.C.N. As a result of the ballot, Cdr. F. J. Dayton, R.C.N. and Mr. A. L. McIntosh were elected to serve on the Committee.

There being no nominations for the offices of Honorary Secretary and Honorary Treasurer, Mr. G. C. Johnson and Mr. H. R. MacPherson respectively, were duly re-elected.

After a survey of the year's activities and the future programme, Mr. Mathers informed the meeting that the new Committee had unanimously elected Mr. V. F. O'Connor, C.D., B.Sc., as Chairman of the Section for the forthcoming year.

Mr. O'Connor then took the Chair and presented each of the two retiring Committee members with a small brass model dory, suitably inscribed, as a tribute to their service to the Section and as a memento of the Atlantic Region of Canada.

The constitution of the Committee for 1964 is as follows:

Local Vice-President, Halifax: Capt. F. Harley, R.C.N.  
Chairman: V. F. O'Connor, C.D., B.Sc.  
Vice-Chairman: E. C. Smith  
Committee: Cdr. F. J. Dayton, R.C.N.  
B. D. Lawson  
A. L. McIntosh  
J. Mitton

Honorary Secretary: G. C. Johnson  
Honorary Treasurer: H. R. MacPherson

### GREAT LAKES

The registered membership has decreased from 77 at the end of 1962, to 76, although the number of Institute Members in the area has increased from 91 to 106. The Chairman urged all those who knew of members residing in the area who have not already done so, to encourage them to obtain the necessary forms from the Honorary Assistant Secretary and become registered in the Great Lakes Section. He also urged all members knowing qualified engineers, to invite them to meetings when guests were allowed, with a view to encouraging them to apply for membership.

The activities of the Section are as follows:

1st March A paper entitled "Centralized Control of Marine Power Plants" was presented by Mr. G. H. Gibb and associates from Canadian General Electric Company. The meeting was very well attended and the paper evoked some spirited discussions.

17th May A Social Evening was held at the Marine Museum in the Grounds of the Canadian National Exhibition. About 80 members and guests including ladies attended and this was considered very satisfactory as the function was held on a holiday week-end. A full report of the event was included in the September issue of the Canadian Supplement to the TRANSACTIONS. Thanks are due to Mr. A. C. Waldie (Vice-Chairman of the

Section) and his staff who handled the arrangements for the occasion.

10th October A meeting was held at the Marine Museum to discuss the forthcoming Canadian Division Conference. The Committee's recommendation that Mr. D. G. Champion (Honorary Secretary) be nominated as delegate with the Local Vice-President, Mr. L. D. MacBean, as an alternative, was approved. Mr. Champion and Mr. MacBean duly attended the Conference in Ottawa on 18th and 19th October and from reports received presented the views of the Great Lakes Section in a very capable manner.

22nd October A meeting was held at which the Section was honoured by the presence of Commander F. M. Paskins, O.B.E., R.D., R.N.R. (Chairman of Council). Mr. Champion and Mr. MacBean gave brief reports on the Conference. Commander Paskins referred to some of the subjects discussed and also outlined the aims of the Institute for the future with special reference to the encouragement of advanced education and training in technology.

5th December A paper entitled "Centrifugal Pumps—Marine Application" by M. A. Montgomery and J. H. Govan was presented. This paper which was illustrated by slides was very well received and the usual lively discussion followed.

In his report Commander Fowlie said that it had been a pleasure to act as Chairman for the Section during the year just ended. 1963 was notable for two innovations—the first social evening held by the Section, and the Canadian Division Conference held in Ottawa.

The Chairman here mentioned a few of the more important decisions made at the Conference for transmission to the Council in London. It was agreed to form an Executive Committee of the Canadian Division to consist of the Vice-President for Canada, together with Mr. G. W. Stead (Companion), and the Secretary for Canadian Affairs.

A Canadian Membership Committee was established to screen applications and make recommendations to the Council. The Secretary for Canadian Affairs would act as Chairman and would be assisted by two members appointed by the Executive Committee.

Commander Paskins announced that the Institute is providing scholarships for young men who are prepared to study for a Diploma of Technology in Marine Engineering. These will be available to Canadians and the Secretary for Canadian Affairs will be given full details in due course.

A proposal was put to the meeting that the Canadian Division sponsor prizes for marine engineers. This elicited the information that the St. John's, Newfoundland, Section is to award an annual prize of \$50 to a student of marine engineering in that province. The delegates approved in principle the idea of prizes and the Section had been asked to discuss at the General Meeting the establishment of a prize fund. An individual contribution of 25c or 50c was suggested.

In concluding his report Commander Fowlie wished to thank Mr. MacBean (Local Vice-President) and all members of Committee for the wholehearted co-operation he had received during his Chairmanship, also Mr. A. Newland (Past Local Vice-President) for his help during the year. If there was one thing the Chairman had learnt during his term of office it was the amount of work done by the Honorary Secretary, Mr. D. G. Champion, on behalf of the Great Lakes Section and he wished to give special thanks to him. He also wished to extend his best wishes for the 1964 session to his successor, the newly elected officers and to all members of the Section.

G. P. Fowlie (*Chairman*)  
D. G. Champion (*Honorary Secretary*)

## Annual Report of the Council for 1963

### Annual General Meeting

The Annual General Meeting of the Section was held at the Engineers' Club, 105 Victoria Street, Toronto, on Thursday, 16th January 1964. Approximately thirty members gathered at the Club for dinner before the meeting was officially opened.

Commander G. P. Fowlie, R.C.N.R. (Chairman of the Section) was in the Chair and welcomed the members attending from the St. Catherines Region, also Mr. J. M. Munn from Erieau and those Chief Engineers, including Messrs. M. D. Corbin, R. H. Peatman and G. P. Barber, who had left their ships to be present.

Mr. J. H. Edlund (Honorary Treasurer) presented his financial statement and it was proposed by Mr. E. L. James and seconded by Mr. F. Robb, that this be adopted.

Mr. G. W. R. Corbin and Mr. S. Wilkinson were appointed by the members as Scrutineers for the ballot for the new Committee.

The Committee is constituted as follows:

Local Vice-President, Toronto: L. D. MacBean  
Chairman: A. C. Waldie  
Vice-Chairman: G. W. R. Corbin  
Committee: G. McConnell  
F. D. MacInnis  
Cdr. R. C. H. Reed, D.S.C., R.D.,  
R.C.N.R.  
D. R. Weaver

Honorary Secretary: D. G. Champion

Honorary Treasurer: J. H. Edlund

Mr. T. M. Pallas, P.Eng. (Secretary for Canadian Affairs) addressed the meeting and delivered an account of general affairs which showed a satisfactory rate of growth.

Mr. J. Boyles (Past Inaugural Secretary) presented Mr. L. D. MacBean (Local Vice-President) with a beautifully carved gavel and stand, prepared from the handrail from the *Dominion Monarch*. Accompanying the gift was a brochure giving full details of the vessel with attractive photographs. Mr. MacBean expressed his appreciation of this unique gift.

On a motion by Mr. F. Robb seconded by Commander Fowlie, the meeting approved in principle that some form of grant or appropriate scholarship be awarded in Canada. It was also agreed that in the event of all Sections concurring, the scholarship or grant be based on Dominion-wide competition. After considerable debate the motion by Mr. Champion, seconded by Mr. Edlund and with unanimous agreement from the floor, referred the organization of this question to Ottawa and the Canadian Division Committee who would in turn submit full guidance to the Section.

Mr. MacBean expressed the appreciation of the Section to Mr. Pallas for his continued efforts and specifically his presence at the meeting. Mr. A. Newland appropriately thanked Mr. F. Robb for his service on the Committee.

### NEWFOUNDLAND

The following technical meetings were held during 1963:

19th March A paper on "Dockyard Repairs" was read by Mr. R. C. Macklin.  
28th March A film was shown on "The Fitting of a Stern Tube".  
17th April A film on Diesel engines was shown.  
3rd December A paper entitled "The Absorption System of Refrigeration" was read by Mr. H. Evans.

Various Committee meetings were held throughout the year at which Mr. R. A. Harvey was nominated to be appointed Local Vice-President, the visit of the Secretary of the Institute, Mr. J. Stuart Robinson, to the Section was discussed also the Canadian Division Conference, and Mr. R. C. Macklin was appointed Chairman of the Section until the Annual General Meeting.

M. Green (*Recording Secretary*)

### Annual General Meeting

The Annual General Meeting of the Section was held on Monday, 13th January 1964, at Shriner's Club, Le Marchant Road, St. John's, at 8.30 p.m.

The Chairman was Mr. R. A. Harvey (Local Vice-President, St. John's, Newfoundland) and fourteen members attended.

In the absence of Mr. M. K. O'Grady who unfortunately was seriously ill, the annual report of the Honorary Secretary was read by Mr. M. Green (Recording Secretary), moved for adoption by Mr. A. M. Goosney, seconded by Mr. R. C. Macklin and accepted.

Mr. R. J. Power, seconded by Mr. J. P. Macdonald, moved the adoption of the Honorary Treasurer's report, this was accepted.

The election of officers and members of Committee was conducted by the Chairman.

The Committee for 1964 is as follows:

Local Vice-President, St. John's: R. A. Harvey  
Chairman: R. C. Macklin  
Vice-Chairman: T. A. Stewart  
Committee: A. M. Goosney  
G. P. McCarthy  
J. P. Macdonald  
M. K. O'Grady  
H. G. Pond  
B. M. Strang  
Honorary Secretary: J. W. Noel  
Honorary Treasurer: H. G. Evans

Mr. Harvey thanked the officers and members of Committee who had served during 1963 and wished the new Committee a successful year. He then invited Mr. Macklin to take the Chair.

The new Chairman expressed his gratitude to the members for the honour given him and asked for their continued support during 1964.

Mr. Macklin outlined the arrangements for meetings in the near future and informed members that all meetings in future would be held at Shriner's Club, Le Marchant Road, St. John's, where ample facilities are available, also that owing to Club schedules, regular meetings would be held on the fourth Monday of every month, while Committee meetings would be held on the second Monday of every month.

### ST. LAWRENCE—OTTAWA

Over the four years of the existence of the Section, there has been an increase in membership of about 62 per cent, equally divided between the St. Lawrence and Ottawa areas, which is considered to be very encouraging.

The membership of the St. Lawrence area stands at 117 and the Ottawa area at 58, being a total of 175 members.

Twenty-three of the aforementioned members have yet to register with the Section and the special efforts made by the Honorary Secretary to get the co-operation of these non-registered members is greatly appreciated.

The following meetings were held during 1963:

18th January Annual General Meeting followed by an instructive film and discussion on "Epicyclic Gearing and Mechanical Advantage". By courtesy of W. H. Allen Ltd.  
19th February "Machinery Layout and Performance of s.s. *John A. France*" by Graham Mitchell, at the Engineers' Club, Montreal.  
\* 18th April "Marine Salvage" by Captain C. F. J. Finch, R.N.R. Joint meeting with the Eastern Canada Section of S.N.A.M.E. A large number attended this meeting owing to the vessel having been built locally by Canadian Vickers Ltd.  
24th May "Boiler and Control Systems" presented by Mr. J. R. Harvey, President of Babcock and Wilcox Ltd., at the Charles Camsell Hall, Ottawa.  
28th June Annual Social Evening at the Edgewater Hotel, Pointe Claire. During the evening framed certificates were presented to Mr. A. R. Riddell (Honorary Vice-President) and

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- Mr. F. Minnikin (Local Vice-President, Montreal) in recognition of their services to the Section.
- 28th September "Corrosion of Tin Base Babbitt Bearings" by J. B. Bryce (Member) at H.M.C.S. *Donnacona*, Montreal.
- 29th November "Combustion Aspects of Residual Fuels" by J. H. Rensink at H.M.C.S. *Hochelaga*, Ville LaSalle.

The Section By-Laws propose that three technical meetings be held annually. The fact that six technical meetings were held in 1963 is a measure of the increased activity within the Section. The support of the members, particularly those engaged in arranging the meeting held in Ottawa is much appreciated by the Committee.

Attendance at the Social Evening was most encouraging.

\* Published in the December 1963 issue of the Canadian Supplement.

### Annual General Meeting

The Annual General Meeting of the Section was held on Friday, 17th January 1964, in the Royal Canadian Navy Officer's Mess, H.M.C.S. *Hochelaga*, LaSalle, Montreal.

Twenty-two members attended, including one member from Ottawa.

Mr. T. M. Pallas, P.Eng. (Secretary for Canadian Affairs) was a most welcome guest and, in spite of the rather small attendance the meeting was animated and there was a feeling of enthusiasm and interest throughout the entire proceedings.

Since the inception of the Section the offices of Honorary Secretary and Honorary Treasurer have been held by Mr. Walter P. Graham and Mr. D. R. Stonely respectively, and the Committee and members are deeply indebted to them for the voluntary services they have performed during the entire period of operation as a Section. Although eligible for re-election Mr. Graham has decided to resign and Mr. Stonely is leaving Montreal to take up employment elsewhere.

This information was intimated to the meeting and members showed their thanks and appreciation by acclamation.

Only one nomination for the office of Honorary Secretary was received and accordingly Mr. K. Hamilton was appointed, this was accepted by the members with mutual consent.

For the office of Honorary Treasurer, Mr. H. A. Sledge was proposed and seconded and his appointment also met with the general approval of the meeting.

In accordance with the By-Laws Messrs. A. Buchan, H. A. Sledge and T. N. Ross retired by rotation also one additional Committee Member, Mr. G. Patterson, who is eligible for re-election.

Four nominations were received to fill the four vacancies and the following members were elected to serve on the Committee: Messrs. H. Bruce, D. L. Findlay, R. McAleese and G. Patterson.

The reports of the Chairmen of the Sub-Committees were read and Mr. D. R. Stonely (Honorary Treasurer) presented his financial report.

In reviewing the year's activities, it was felt that the Section had continued to expand and has made steady progress. The Chairman looked forward to a continuance of this progress by the new Committee which, this year, had a considerable element of "new blood". He felt sure that the members would give them their very best support.

For the benefit of members present the Canadian Division Conference was briefly described and Mr. Pallas read selected portions from the minutes of this meeting and various points gave rise to a lively discussion which necessitated voting to obtain rulings on several controversial points.

T. N. Ross (*Chairman*)

The Committee for 1964 is as follows:

Local Vice-President, Montreal: T. N. Ross  
Corresponding Member, Quebec: K. Nicol  
Chairman: D. L. Findlay  
Vice-Chairman: Cdr. R. W. Edwards, R.C.N.

Committee: T. R. Bradley  
H. Bruce  
G. A. Burgess  
R. F. Hawkins (co-opted)  
J. P. Heslop  
R. McAleese  
G. Patterson  
Honorary Secretary: K. C. Hamilton  
Honorary Treasurer: H. A. Sledge

### VANCOUVER ISLAND

The second year of the Vancouver Island Section has shown a slight increase in membership. Due to the movement of members from the area, the total has fluctuated. The interest of members and of the Committee has considerably helped to influence new members. Consequently the total membership is now 63, a slight increase over last year.

The movement of Naval personnel last year had included Captain E. Revfem, C.D., R.C.N. (Past Local Vice-President). This was a loss to the Section but it was hoped that he would return sometime in the future.

Six meetings were held during the year as follows:

- 30th January Annual General Meeting.  
7th February A paper on "Diesel Power in British Columbia" was presented by Mr. Stafford Andrews of the B.C. Hydro Company.  
18th April A paper on "Plastic Boats" was presented by Capt. D. Ramsay. The Section was honoured by a visit from Mr. T. M. Pallas, P.Eng., Secretary for Canadian Affairs.  
10th May Annual Dinner held in the wardroom of H.M.C.S. *Naden*. The guest speaker was Dr. Austin L. Wright, President of the Engineering Institute of Canada, whose subject was "The Engineer and the Present Day".  
3rd October A film on "Automotion in Industry" was followed by a discussion.  
25th October Visit to the Section by the Chairman of Council, Commander F. M. Paskins, O.B.E., R.D., R.N.R., and the Secretary of the Institute, Mr. J. Stuart Robinson, M.A.

The highlights of the year's activities included a visit by the Vice-President for Canada, Rear-Admiral J. B. Caldwell, M.B.E., C.D., R.C.N., to the Section, and the visit to Ottawa for the Canadian Division Conference, of delegates of the Section, Mr. J. McPherson (Honorary Secretary) and Commander H. G. Gillis, C.D., R.C.N.

In the elections for Officers and Committee for 1964, Mr. J. McPherson and Mr. W. Hichens-Smith were re-elected as Honorary Secretary and Honorary Treasurer respectively by the acclamation of the meeting and the following members were elected to serve on the Committee: Lieut. D. W. Wilson, R.C.N., Messrs. J. A. Greenwood, D. McKinnon and W. White.

The Committee for 1964 is as follows:

Local Vice-President: N. Turner  
Chairman: Cdr. H. G. Gillis, C.D., R.C.N.  
Vice-Chairman: R. Main  
Committee: J. A. Greenwood  
D. McKinnon  
W. Maddock  
W. White  
Lieut. D. W. Wilson, R.C.N.

Honorary Secretary: J. McPherson  
Honorary Treasurer: W. Hichens-Smith  
Recording Secretary: C. T. Brinkman

Due to pressure of work Mr. H. L. Elliott, O.B.E., resigned from the office of Chairman of the Section. It is hoped that he will be available for Committee duties in the future. Commander J. S. Osborn, C.D., R.C.N. has found it necessary to tender his resignation from active duties with the Section owing to reasons of health. Commander Osborn has given invaluable assistance to the Section over the past

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years, during which he served as Chairman of the Victoria Branch of the British Columbia Section until the inception of the Vancouver Island Section.

It was with great regret that the Committee and members accepted these resignations.

J. McPherson (*Honorary Secretary*)

### BOMBAY

The membership of the Bombay Section as at the end of 1963 stands at 203. Nine new members were enrolled and seven members were removed from the membership list owing to loss of contact.

During the year five meetings were held and the following technical papers were read:

- \* 19th March "Principles of Automatic Controls and Application in Mercantile Marine" by K. S. Subramaniam (Member).
- † 24th July "Official Sea Trials" by B. Ananda (Associate Member).
- ‡ 13th December "The Development of Heavy Duty Marine Diesels During the Past Five Years" by W. Kilchenmann (Member).

A visit to the Tata Institute of Fundamental Research, Bombay, was made by members who were provided with an insight into the direction of research in a modern research laboratory.

A lecture and film show on "Present Day Shipbuilding in the Clyde" was presented by Mr. W. Lochridge (Member).

All the meetings were well attended and the interest shown made it clear that the Section plays an important part in a professional circle of the city.

Rear-Admiral T. B. Bose, B.Sc., I.N. (Vice-President for India) was transferred from Bombay and consequently resigned from the Section. The Committee wishes to record its appreciation for the inspiration and guidance received from Admiral Bose, since the formation of the Section in 1952.

Recognition of membership. Intimation has been received from the Indian Division that the Government of Maharashtra has recognized corporate membership of the Institute as being equivalent to a degree in engineering—except in cases of qualification for teaching assignments.

From time to time complaints are received regarding the quality of the papers presented. The Committee is aware that these adverse comments are not entirely unfounded and various measures are being considered to screen more effectively potential papers and for encouragement for the preparation of more valuable papers. Members will be provided with a list of suggested subjects and information on the criterion for acceptance of papers. A provision for a prize for the best one submitted will also be made.

During the year the Committee has met four times. The meetings were formerly held in the premises of the Directorate General of Shipping, but since the resignation of Admiral Bose arrangements have been made to hold the meetings in the Conference Room of the Grand Hotel, Bombay. The new venue has proved to be very popular.

B. S. Sood (*Chairman*)

D. Dyer (*Honorary Secretary*)

\* Published in the Indian Supplement, No. 6, August 1963.

† Published in the Indian Supplement, No. 7, November 1963.

‡ Published in the Canadian Supplement, No. 5, September 1961.

### CAPE TOWN

The following meetings were held during 1963:

- 21st August A programme of technical films was presented by courtesy of Caltex Africa Ltd.
- 11th September A paper entitled "Development and Prospects of South African Merchant Shipping" was presented by Dr. Verburg of Stellenbosch University, at a joint meeting with the South African Institute of Transport.

23rd October A film entitled "Entropy" provided by International Combustion Ltd., was presented and was followed by a discussion promoted by Mr. D. E. Willis.

On Saturday, 14th September 1963, members of the Section and their guests attended the Annual Spring Festival Ball at the Master Mariners' Club, Cape Town. This proved to be a very enjoyable evening.

### Annual General Meeting

The Eighth Annual General Meeting of the Section was held on Monday, 20th January 1964, in the Board Room, Master Mariners' Club, Cape Town, at 5.15 p.m.

Mr. A. L. Brown (Local Vice-President, Cape Town) was in the Chair and seventeen members were present.

In the election of officers and Committee for 1964 Commodore D. W. Robertson, S.A.N., was elected Chairman of the Section, and Messrs. R. J. Wilson, F. D. Swan and D. E. Willis were re-appointed as Honorary Secretary, Honorary Treasurer and Auditor respectively.

The Committee is therefore constituted as follows:

Local Vice-President: A. L. Brown

Chairman: Cdre. D. W. Robertson, S.A.N.

Committee: W. S. Boreland

D. Ross Innes

C. S. Russell

T. F. Russell

J. H. Simpson

Honorary Secretary: R. J. Wilson

Honorary Treasurer: F. D. Swan

### DURBAN

The Durban Section continues to be very active and the programme for the year ended was as follows:

14th February Annual General Meeting which again was very well attended. Following this, Mr. C. R. Dalton, Technical Manager of Allen-Gwynnes (S.A.) Pty Ltd., who had travelled from Johannesburg especially for the occasion, presented his paper on "Epicyclic Gearing". This was amply illustrated by the use of the epidiascope and the supporting film was of great interest to those present.

26th March A special general meeting, to which ladies were invited, was held with a record attendance of over eighty members and visitors. The programme was in the form of a film evening. The films were shown by courtesy of the British India Steam Navigation Company and Associated Electrical Industries. Particular interest was shown in the meeting by the large attendance of students from Natal Technical College.

14th May A paper on "Interesting Marine Machinery Investigations" by J. H. Milton (Member of Council) was ably presented by Mr. T. H. Noel. In introducing the paper Mr. Noel gave a brief resume of Mr. Milton's career with Lloyd's Register of Shipping.

20th August A most informative paper on "Corrosion on the European Continent" was presented by Mr. O. G. E. Sachse of United Paints. This paper was of a high standard and of great technical interest to all members. The paper was followed by two films shown by courtesy of the Shell Oil Company "The Forming of Metals" and "Hold Back the Sea".

28th November A paper on "The Workings of a Modern Oil Refinery" was presented by Mr. M. Kolijn. This most informative and interesting paper was of an exceptionally high standard and provoked a most lively and detailed dis-

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cussion. The paper was illustrated by two films loaned by the Shell Oil Company, "Oil Refinery", and "Promise Fulfilled" a film depicting the construction of a modern oil refinery.

During the year the quarterly luncheons have been held regularly at the Merchant Navy Officers' Club.

The Natal Association of Scientific and Technical Societies, of which the Durban Section is a member society, held its annual cocktail party at the Marine Hotel, Durban, on Friday, 23rd August 1963.

A prize to the value of R20 for the purchase of books and instruments was again awarded to the most promising marine engineering student at the Natal Technical College.

C. T. Glover (*Chairman*)

### Annual General Meeting

The Ninth Annual General Meeting of the Section was held on Tuesday, 21st January 1964, at the Merchant Navy Officers' Club at 8.00 p.m.

Mr. C. T. Glover (Chairman of the Section) was in the Chair and forty-five members and visitors were present.

Mr. P. F. Balfour and Mr. W. Hapgood-Strickland were elected as Scrutineers of the ballot for the election of the 1964 Committee.

The results of the ballot were made known to the meeting and Mr. C. T. Ratcliffe announced his resignation as Local Vice-President for Durban and proposed that Mr. H. T. V. Horner be nominated in his place. Mr. Ratcliffe, retiring Local Vice-President, paid tribute to Mr. Horner for the sterling work he had done in founding the Section. He felt that Mr. Horner's service and interest in the Section should be recognized by his appointment as Local Vice-President.

The Committee for 1964 is constituted as follows:

Local Vice-President: H. T. V. Horner

Chairman: T. H. Noel

Committee: R. C. Baker

R. F. Dillon

W. W. Hutchinson

G. C. Loveleace

R. M. Murray

T. Ratcliffe

Honorary Secretary: J. F. Smith

Honorary Treasurer: J. R. Holdsworth

The financial statement was presented by the Honorary Treasurer, Mr. J. R. Holdsworth. In moving its adoption Mr. Ratcliffe proposed that the balance in hand could be put to better use by doubling the prize awarded to the best marine engineering student at the Technical College. He stated that more and more students were interested in following a marine engineering career and the Section must do all in its power to encourage and assist these students. Following discussion on this point Mr. Holdsworth seconded the proposal and the motion was put to the meeting and carried.

Following the Annual General Meeting the newly elected Chairman, Mr. T. H. Noel, presented his paper entitled "The Bombay Harbour Explosion 1944 and the Reconstruction of Harbour Facilities". The paper was a detailed account of the events leading up to, and following the terrific explosion that occurred on the vessel *Fort Stickene* on 14th April 1944. The paper was illustrated by the use of the epidiascope and the slides projected showed the magnitude of the disaster. The paper proved to be of great interest and paid tribute to all those who took part in the reconstruction of the harbour facilities. Mr. P. F. Balfour, in proposing a vote of thanks to Mr. Noel for this most interesting paper remarked that it showed what could be achieved under most difficult conditions by a group of men dedicated to a common task. In seconding this vote of thanks the Chairman, Mr. C. T. Glover, also added some eye witness accounts of the explosion.

Before closing the meeting the Chairman thanked all those present for their attendance and took the opportunity of wishing Mr. Noel and his Committee a successful year in office. Mr. Horner proposed a vote of thanks to Mr. Glover

for his keen interest and the able way in which he had conducted the affairs of the Section during the last three years.

Mr. Glover in response paid tribute to the assistance he had received from the Committee, and in closing the meeting he expressed the appreciation of the Section for the availability of the facilities of the Merchant Navy Officers' Club.

### KARACHI

The following meetings were held during 1963:

Technical films mainly for the benefit of the engineering students and apprentices were shown at the Merchant Navy Club on 7th March, 6th and 19th July, and 6th December. All the shows were well attended.

A lecture on "Timber" was given by Mr. S. Afzaal Rasool, on Thursday, 14th March, at the Merchant Navy Club. Different types of wood and methods of their preservation were described in detail.

The Annual Dinner of the Section was held at the Palace Hotel, Karachi, on Thursday, 4th April 1963. Commodore I. K. Mumtaz, P.N., presided in the absence of Captain S. Z. Hasnain, P.N. (Vice-President for Pakistan) who was away from the country on a visit to the United Kingdom. Guest of honour for the evening was General Haji Iftikhar Ahmad. A floor show followed the dinner.

Dr. S. Ahmad Husnain delivered a lecture on "Nuclear Power—and its peaceful uses" at the Merchant Navy Club, and showed a number of films on the subject. A lecture on "Petroleum Prospecting with Particular Reference to Pakistan" was presented by Mr. H. H. Rennison and illustrated by many interesting films on the subject.

All the lectures were well attended and were followed by lively discussion. Chairman of the Section, Mr. A. S. Benjamin presided over the meetings. Suitable replies to the points raised were made by the speakers to whom the Chairman proposed a vote of thanks.

### SYDNEY

The Committee has pleasure in presenting the Fifteenth Annual Report of the Proceedings of the Sydney Section during 1963.

The Section has gained three members during the year and now has a total of one hundred and eighty. In addition, enquiries regarding membership have been received from four prospective members.

It is regretted that the Section has to record the death in 1962 of one of its members, Mr. Donald Eadie.

Four general meetings were held during the year, also the Fifteenth Annual Meeting for students and apprentices, as follows:

27th February	Annual General Meeting followed by "Some Unusual Repairs to Large Marine Diesel Engines" by J. W. Lamb (Member).
22nd May	"Recent Marine Engineering Developments" by Lt. Cdr. W. J. Rourke, R.A.N.
21st June	"Some Unusual Repairs to Large Marine Diesel Engines" by J. W. Lamb (Member). Meeting for students and apprentices.
24th July	"The Lubrication of Turbines and Gears" by F. J. Ward (Member).
12th November	"The Institute of Marine Engineers" by Commander F. M. Paskins, O.B.E., R.D., R.N.R. (Chairman of Council).

Members of the Section made an inspection of the Research Establishment, Australian Atomic Energy Commission, Lucas Heights, New South Wales, on Thursday, 26th September 1963.

A cocktail party was held at the Pickwick Club, Sydney, on Monday, 11th November 1963, to welcome the Chairman of Council, Commander F. M. Paskins, O.B.E., R.D., R.N.R. and Mr. J. Stuart Robinson, M.A., Secretary of the Institute, on their visit to Sydney.

Seventy-four persons attended this function and members and their wives were delighted to be given the opportunity of



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meeting Commander and Mrs. Paskins and Mr. and Mrs. Robinson.

The Annual Dinner was held on Thursday, 14th November 1963, at the Wentworth Hotel, Sydney. This was a most successful function and was attended by seventy-seven members and fifty-one guests. It continues to be one of the most important annual gatherings of those associated with shipping in Sydney.

Following the return to London of the Chairman of Council and the Secretary, together with their wives, the Council at its meeting on 12th January 1964, unanimously approved a resolution expressing their gratitude to all the members of the organizations of the Institute in the U.S.A., Canada, New Zealand and Australia, for the arrangements made in connexion with this visit which ensured that it was such a success and so enjoyable.

The Council continues to take a very keen interest in the activities of the Section and the recent visit by the Chairman of Council, Commander F. M. Paskins, O.B.E., R.D., R.N.R., and Mr. J. Stuart Robinson, M.A. and of their wives, was greatly appreciated by the members of the Sydney Section.

The Committee is grateful to Captain G. I. D. Hutcheson, C.B.E., B.E., R.A.N. (Vice-President for Australia), for the advice, guidance and assistance which he gives to the Section.

The Committee is also grateful to all the members for their continued support, as it is only through this that the Section can continue to function successfully.

W. G. C. Butcher (*Chairman*)

N. A. Grieves (*Honorary Secretary*)

### WESTERN AUSTRALIA

This has been a very active year for the Section and it has included a three day visit by the Chairman of Council, Commander F. M. Paskins, O.B.E., R.D., R.N.R., the Secretary of the Institute, Mr. J. Stuart Robinson, M.A., together with their wives.

Membership has again shown a steady increase of twenty per cent.

The following meetings were arranged during 1963:

- 1st May An interesting paper was presented by Mr. C. Humby (Member), Combustion Engineer, Shell Oil Co. The speaker covered the development of the modern high power boiler and the advances in register design, including suspended flame registers. The paper was illustrated by an interesting selection of slides.
- 7th August A paper entitled "Bunkering Facilities in the Port of Fremantle" was presented by

Lieutenant G. E. Giles, R.A.N.R. (Graduate), formerly of B.P. Australia. Lieutenant Giles is the Assistant Mechanical Engineer, Fremantle Harbour Trust. The paper which was most interesting and acquainted members with the facts regarding facilities in Fremantle, was illustrated by slides.

6th November

A Student Meeting was held at which a paper entitled "Considerations for the Design of a Sea Going Fishing Boat" was presented in an excellent manner by Mr. L. A. Randall, a prominent local naval architect. All technical colleges and trade schools had been circularized and a well supported meeting ensued. A film covering the design, building and trials of the s.t.s. *Oriana* followed the reading of the paper. The film was shown by courtesy of the P. and O. Orient Lines film library.

19th November

A meeting was held to enable the Chairman of Council and the Secretary of the Institute to address members of the Section. The meeting was well attended and a lively discussion followed. The enthusiasm with which members received the visitors left no doubt as to the success of this visit.

A full programme of visits to local industry and official functions, including a mayoral reception in Fremantle, was organized during the visit of Commander and Mrs. Paskins, and Mr. and Mrs. Robinson, with separate outings for the ladies arranged by the wives of Committee Members.

It was decided to arrange the Annual Dinner to coincide with the official visit, this was very successful and members have indicated their desire to make this a yearly affair.

With the completion of the new Port Authority Building at the entrance to the Fremantle wharves, the Section is hopeful of obtaining the use of the auditorium for the presentation of papers; this will make meetings readily accessible to personnel in visiting ships.

The departure to Canberra of the Chairman of the Section, Lieutenant-Commander E. F. Fewster, R.A.N.R., resulted in the election of Mr. A. G. L. Perman to this office. Mr. E. E. Freeth was elected as Vice-Chairman of the Section and Mr. C. van Hazel was co-opted to serve on the Committee for the remainder of the year.

Lieutenant-Commander Fewster was largely responsible for the formation of the Western Australian Section and his departure has deprived the Section of a loyal and active member.

L. F. Coy (*Honorary Secretary*)

## Representatives' Reports

*City and Guilds of London Institute: Advisory Committee on Shipbuilding, Ship Joinery, Yacht and Boat Building.*  
Representative: C. H. Taylor-Cook, B.Sc. (Eng.).

A summary of the 1963 results in the examination is as follows:

Ship Joinery: Intermediate. A few more candidates but an insignificant change in the percentage of passes.

Final. A fall, both in the number of candidates and in the percentage of passes.

Yacht and Boat Building: Intermediate. A few more candidates but an insignificant change in the percentage of passes.

Final. A few more candidates but a fall in the percentage of passes.

Shipbuilding: Intermediate (new craft paper). No change in number but a distinct increase in percentage of passes.

Final. A fall in the number of candidates but a slight increase in the percentage of passes.

During the year, revised schemes have been prepared in the subjects of ship joinery, and yacht and boat building. The first intermediate examinations on the revised scheme will be held in 1964 and the first final examinations in 1965. Considerable time has also been devoted to the consideration of 1) a scheme for a Full Technological Certificate in Shipbuilding Crafts and 2) a four-year part-time course for shipbuilding technicians. It is likely that decisions will be reached early in 1964.

*College of Technology, Portsmouth: Engineering Advisory Committee.* Representative: G. M. Kennedy.

The year 1963 has been one of continuous expansion and change at Portsmouth. Principal among the changes has been the separation of the Highbury Technical College from the College of Technology. In future the College of Technology will only take courses of university level work, while Highbury Technical College will deal with the majority of apprentices. Both Portsmouth and Highbury are helping greatly to relieve the demand in this country for places in the training of foreign students.

*East Ham Technical College: Engineering Advisory Committee.* Representative: R. M. Duggan, M.A.

Two meetings of the Committee were held in 1963, on 21st March and 22nd November.

At the end of the municipal year in May, the existing Committee came to the end of its three year term of office. Four new members have been incorporated in the present Committee, but the Chairman and the other eleven members remain unchanged.

### *Enrolments*

The number of enrolments registered in November 1963, compared with the same time last year was as follows:

	1963/64	1962/63
Block Release ... ..	105	21
Part-time Day and Evening ...	812	735
Part-time Day ... ..	562	493
Evening ... ..	1,031	953
	2,510	2,202

It is noticeable that the downward trend in the block release enrolments between 1961 and 1963 due to a recession in the radio and television industry has now been completely reversed. There is still a very strong upward trend in the overall numbers and the full-time complement of staff has been increased this year by four to a total of forty-five.

### *New Courses*

The following new courses are running:

Craft Practice Courses in Electrical Installations.

First, second and third year part-time day release courses are being held, with an evening class in each year for Social Studies.

Mechanical Engineering Craft Practice.

This course has proved to be so popular that a first year evening-only course has been introduced.

Mechanical Engineering Technician's Course.

First and second year courses were offered in the evening, and first, second and third year T.1, T.2 and T.3 courses are being held in the daytime. Enrolments were satisfactory.

A special class in Radio Controlled Models.

The second year of Work Study.

Section C of the Institute of Welding's Requirements. Advanced Telecommunications and Electronic Principles.

Quality Control.

The programme of visits of foremen, charge hands and senior men from one firm has continued.

A new programme began in December 1963.

Block Release Telecommunications Course for Post Office Students. This year an experimental block release telecommunications course was being run in the department for Post Office students, with the co-operation of the East London Area of the Post Office. If the Post Office was satisfied with this pilot scheme, which was the only one in the country, this method of training would be adopted as a standard practice and the Post Office would concentrate its students into certain colleges. It was expected that this College would be one of those selected, and that an influx of between 300 and 400 students would be involved.

During 1962/63 the Engineering Draughtsman's evening course and some of the senior telecommunications courses had not materialized.

### *Safety Committee*

A safety committee comprising representatives from each department has been formed and meets weekly. A special lecture by one of H.M. Factory Inspectors was given in July.

### *Separation of Mechanical and Electrical Engineering Departments*

It is proposed to divide the engineering department into separate departments of electrical and marine engineering. Approximately equal numbers of students would be contained in each and it is proposed that initially one Advisory Committee will cover both departments.

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*Engineering Institutions Examinations Standing Committee for Part I.* Representative: C. H. Taylor-Cook, B.Sc. (Eng.).

Most of the time of the Committee has been concerned with the regular work of supervision of examination work including the moderating of papers and the consideration of results. Some attention has been given to a proposed revision of the pattern of the examination in Engineering Drawing. Certain proposals are now being considered by the Councils of the constituent Institutions.

*Institution of Electrical Engineers: Ship Electrical Equipment Regulations Committee.* Representative: A. N. Savage.

Both the Advisory and Co-ordination Sub-Committee and the Cables Sub-Committee have held meetings during the past year, 1963.

The Advisory and Co-ordination Sub-Committee has the duty to advise those who wish greater clarification of the regulations contained in the Third Edition. The co-ordinating side of this Sub-Committee has the task of preparing the first drafts for four of the chapters and subsequently editing and composing the whole of the first draft for the First Edition of the I.E.C. Publication No. 92; participating in the work of I.E.C./TC18 in the preparation of the Second Edition of Publication No. 92 and the desirability of aligning the Fourth Edition of the Institution's Regulations therewith as far as possible.

A number of Working Groups has been formed to deal with the following specific problems:

- a) High-voltage systems.
- b) Problems arising from higher conductor temperatures of cables.
- c) Protection.

### *Cables Sub-Committee*

The two most outstanding points reviewed during the year have been:

- 1) Distinguishing "high-temperature" types of cable.
- 2) The current ratings for the smallest sizes of cables, 1/044-7/029, as given in the Fourth Edition of the Institution's Regulations.

- a) B.S. 883:1958 does not at present include any requirement for the marking of butyl cables. The situation might arise in the next few years in which a variety of types of cable suitable for any given operating temperature are likely to become available. It was suggested that in these circumstances a marking related to temperature alone was satisfactory.

The "user" members of the Sub-Committee expressed the view that marking with the name of the insulating material was very desirable and in some circumstances essential.

It was decided to inform British Standards Institution and the Cable Makers Association that, so far as the British Standards for cables for use in ships were concerned, the Sub-Committee regarded marking with the name of the insulating material as most desirable.

- b) The current ratings given in the Fourth Edition are based on the thermal characteristics of the cables and it is considered that these ratings should not be used *ad lib* if safe operation is to be ensured under all conditions with fuse protection. This question is being dealt with by both the Sub-Committee and the appropriate Working Group.

*Institute of Welding.* Representative: W. Rennie.

Progress in welding research and practice is reported in the monthly editions for 1963 of the British Welding Journal.

*International Institute of Refrigeration: Standing Committee.*

Representative: K. C. Hales, M.A.

The Department of Scientific and Industrial Research

Standing Committee met twice in 1963. The meetings were mainly concerned with the International Congress of Refrigeration held in Munich, and with British representation in the Institute.

*Joint British Committee for Stress Analysis.* Representative: T. W. Bunyan, B.Sc.

The Committee met four times during 1963, on 29th January, 21st May, 29th October and 11th December, the Annual Meeting being held on 29th January in conjunction with the Ordinary Meeting on that date. The following main principles were discussed during the year.

- 1) *Liaison with the Society for Experimental Stress Analysis* was effected by the appointment of Professor Redshaw as a corresponding member. (Professor Redshaw, who represents the Institution of Civil Engineers on the Joint British Committee, is a member of S.E.S.A.)
- 2) *Closer Liaison with the Institution of Physics and the Physical Society* through the interchange of information on activities.
- 3) *The appointment of Professor R. M. Kenedi* to the Committee to represent Bio-engineering interests.

Progress was made with arrangements for the May 1964 Conference on Thermal Loading and Creep in Structures and Components, being arranged on behalf of the Joint British Committee by the Institution of Mechanical Engineers. The programme of the Conference when ready, will be circulated to all the bodies represented on the Committee.

Further suggestions for activities were considered and included a proposed Conference on Stresses in Concrete Pressure Vessels. An approach has been made, and followed up, to the Institution of Civil Engineers, to undertake the arrangements. It is hoped that arrangements will be put in hand during 1964 by that Institution.

The Royal Institution of Naval Architects had acceded to a suggestion that they should arrange a conference in the Measurement and Analysis of Service Stress Data, but seek financial guarantee from the Joint British Committee to underwrite possible losses. Accordingly representatives are now seeking the views of their parent bodies in this connexion. Inquiries relating to other activities are also in hand.

*Joint Committee on Materials and Their Testing of Technical Institutions and Societies in Great Britain.* Representative:

R. Cook, M.Sc.

A proposal to set up a new organization to cover the matters at present dealt with by the Joint Committee and by the British National Committee for Non-Destructive Testing, is at present being discussed with the twenty-three constituent societies.

Negotiations are proceeding for a conference to be held on the Acoustic Properties of Materials.

A Sub-Committee set up jointly by the Joint Committee on Materials and Their Testing and the British National Committee for Non-Destructive Testing is to investigate the Educational position in the United Kingdom in the field of materials testing.

*Lloyd's Register of Shipping: Technical Committee.* Representatives: A. Logan, O.B.E., and H. J. Wheadon.

In view of the large number of bulk carriers now being built a new section has been added to the Rules covering the basic design requirements of this type of ship.

Following considerations of a special panel, amendments have been made to the Tanker Rules to include the application of higher tensile steel and certain anomalies have been resolved in connexion with longitudinal and local strength.

A panel under the leadership of the chief ship surveyor has prepared a draft code on Ships Cargo Handling Gear and further sections to the code are now being considered.

Amendments have been decided for the Rules governing the quality and testing of material for ship boilers and machinery and the section of the Rules dealing with chain cables and steering chains has been considerably revised.

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*Automation in Ships.* The Society has published a memorandum which draws attention towards the features of centralized control systems and underlines the basic requirements necessary for reliability and efficiency.

*Northern Advisory Council for Further Education (Advisory Committee for Engineering).* Representative: A. W. Jones, B.Sc.

Earlier in the year 1963, the constitution of the Advisory Committee for Engineering (a Committee of the Northern Advisory Council for Further Education) was revised so that the Institute was no longer directly represented.

This revision was agreed by all members and the re-constituted Committee is likely to be more effective.

The interests of the Institute are covered as several Committee Members are full members of the Institute and if ever there is business directly concerned with Institute matters, it is the intention to co-opt a special representative.

*North East Technical College, Old Swan, Riversdale and Walton Technical Colleges, Board of Governors.* Representative: T. Kameen.

In May this year the representative of the Institute was elected Chairman of the Board of Governors for the above Colleges and in this capacity has attended fifteen meetings and while such meetings are most time consuming, it is considered to be time well spent.

Insofar as the Institute is concerned, members will be interested to know that the Phase III Workshop Training Course for Alternative Training Scheme apprentices has now been established at Riversdale, and as the result of an appeal to the shipping industry, a good deal of valuable marine equipment has been made available for the students.

A further matter of interest is that mid-apprenticeship Release Courses have now been established at Riversdale for apprentice navigators.

*Poplar Technical College, Board of Governors.* Representative: D. G. Alcock.

This College has continued with its usual able work in marine technical education and during the last year adult students entering for Ministry of Transport examinations, obtained five Extra First Class Certificates, seventy-two First Class Certificates and ninety-six Second Class Certificates in addition to thirty-nine Endorsements. The Mechanical Engineering Department recorded an equally gratifying success in the Diploma examinations attempted by the Alternative Training Scheme apprentices. Arrangements are now at an advanced stage for the establishment of a Workshop Training Annex to afford workshop training facilities for Alternative Training Scheme apprentices in lieu of service in marine workshops. It is expected that this facility will be available by January 1965, if not before.

The College has additionally offered short courses of a marine nature for senior students, and the continued representation of the Institute on the Governing Body is strongly recommended.

*Southampton Technical College, Engineering and Science Advisory Committee.* Representative: C. W. Paul, M.B.E.

The classes in marine engineering were transferred in September 1963 to the new College of Technology which is to be opened officially in April 1964.

The number of students enrolled during the session was 229 for Second Class and 94 for First Class Ministry of Transport courses. In Part A examinations 58 Second Class and 24 First Class candidates passed in all subjects. This represents a sessional increase of over forty per cent and is a record for the Department.

Ministry of Transport Certificates of Competency were awarded to 79 Second Class and 40 First Class students who successfully completed the Part B examinations.

The total of 119 Ministry of Transport Certificates

awarded was the same as in the previous session, which was a record year.

Two Part A and three Part B special Block Release Second Class courses were organized at the request of the Shipping Federation.

The number of students enrolled was about the same as in the previous session. Thirty Part A students completed the courses and 21 passed the examinations.

Fifty-five Part B students completed the courses and 31 were successful in the Ministry of Transport examinations.

With the co-operation of Southampton Fire Brigade, 13 practical fire fighting exercises for marine engineering students have been arranged for the present session and a series of marine engineering practice lectures and ship visits have been prepared for the Alternative Training Scheme apprentices.

*Sunderland Technical College: Advisory Committee for Electrical Engineering, Mechanical and Marine Engineering and Naval Architectural Departments.* Representative: W. R. Jones.

Two meetings of the Advisory Committee were held during the year at which various aspects of the Fielding and Robbins reports and a suggested merger with Rutherford Technical College were discussed.

It was reported that the Ministry of Education had withdrawn recognition of the Diploma of Technology Course in Naval Architecture owing to lack of enrolments. The University Degree Courses which were available at Newcastle upon Tyne University made appropriate provision for the relatively small number of naval architectural students who required a qualification of this level. In addition, the College Diploma in Naval Architecture is held in high regard in the area and further developments of this particular course are being considered.

There were no immediate plans for re-submitting the Sunderland scheme for the Diploma of Technology Course in Mechanical Engineering as recognition had been given to a scheme submitted by the Rutherford College of Technology, but a complete re-appraisal was taking place and new syllabuses would be available shortly.

A four year Sandwich Course for the Diploma of Technology in Materials Science had received approval.

*United Kingdom Automation Council (formerly British Conference on Automation and Computation).* Representatives: H. E. Upton, O.B.E., and J. Stuart Robinson, M.A.

During the year it was agreed to adopt a new name which it was felt would be more in keeping with the aims and objects, and this is an indication of the tremendous growth which is taking place in automation and computation.

There are thirty-three professional institutions who constitute, or are associated with membership of the Automation Council.

### a) *Education and Training*

The outstanding activity has been the consideration of proposals for the training and development of personnel required for this expanding industry. To provide such personnel for expansion it is becoming increasingly necessary that there is a programme of education and training at various levels of occupation if industry is to receive properly trained personnel.

### b) *Public Relations*

Literature and information continues to be distributed and is readily available to members on application.

### c) *Research and Development*

During the year particular attention has been paid by the Panel to the review of the needs of individual industries for the application of automation, also indicating the lines of research and development where required. They have also examined the facilities in universities, government establishments and industry and the programme of work being carried out in these establishments.

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The Panel are at all times willing to take an interest in automation, but it is still unfortunate that there appears to be some reluctance on the part of some firms installing automatic equipment to disclose what they are doing. Effort is being put into developing better co-ordination with those carrying out research and development work in the automation field.

### d) Foreign Relations

During the year contact was maintained with the International Measurements Conference and the Council is taking considerable interest in the International Association of Analogue Computation which has decided to hold its fourth international conference in England, in 1964.

At the Basel Congress, 19 British papers were accepted for presentation against 37 from Russia and 42 from America, out of a total of 158, which indicates the tremendous field which is being covered nowadays in this rapidly developing activity. One hundred and sixty members from Britain attended.

### BRITISH STANDARDS INSTITUTION COMMITTEES

*CHE/18/2 Metallic Finishes (Quality)*. Representative: H. E. Bedford.

No meeting has been called during the year and it is believed that this Committee will not meet again unless some revision of the Standard is called for.

### *C/37 Boiler Water Tests.*

*C/37/2 Methods of Sampling of Waters Used in Steam Generation.*

*C/37/3 Methods of Boiler Water Treatment.* Representative: H. J. Wheadon.

No meetings of the above Committees were held during 1963.

*C/37/2/2 Sampling of Steam.* Representative: W. McClimont, B.Sc.

No meetings of this Committee have been held during the year.

*ELE/1/10 Marine Motors and Generators.* Representative: A. N. Savage.

No meetings of this Committee have been held.

*ELE/3/2 Ships' Cables.* Representative: A. N. Savage.

No meetings of this Committee have been held, but an informal meeting has been held by Cable Manufacturers and Users preparatory to any future revision of B.S.883:1958.

*ELE/3/21 Heat-resisting Cables.* Representative: A. N. Savage.

No meetings of this Committee have been held, but Amendment No. 2 to British Standards 3249:1960 was published on 2nd August 1963. This revision is in relation to identification of cores.

*ELE/28 Electrical Fans.* Representative: S. J. Jones, B.Sc.

There have been no meetings since 15th February 1963, when representatives were nominated to attend a meeting in Venice of the International Electrotechnical Commission to finalize Document 43 (Central Office) 6, circulated to National Committees on 22nd June 1962, with a request from Central Office that within six months approval or disapproval of the document as an I.E.C. recommendation should be given.

9 countries approved

3 countries against (including U.K.)

24 countries sent no reply, and are therefore considered to approve

It would appear that some time must still elapse before this matter is finalized on an international basis.

*ELE/28/2 Methods of Measurement and Test of Fans.*

Representative: S. J. Jones, B.Sc.

No progress can be made in this until ELE/28 is generally agreed.

*ELE/51/5 Marine Transformers.* Representative: A. N. Savage.

No meetings of this Committee have been held.

*FSB/1 Definitions and Tests for Fire Resistance.* Representative: A. S. Minton.

This Committee has been instructed to review all the tests in British Standard 476 which include fire tests on Building Materials and Structures. It may well be that additional tests will be put forward including the Fire Propagation Test (Box Test) and a Smoke Test.

The Fire Propagation Test, its short title is the Box Test, adds to the scope of present fire tests in that it will include a test for the ignitability of a building material as well as a test which will measure the available heat which will be contributed by a building material in the event of fire.

The Smoke Test is something which is long overdue for it has been realized for many years that smoke may be an even greater danger to people in a ship or building involving a fire than the fire itself and for that reason it is proposed to devise a test which will measure the amount and perhaps the nature of smoke which will be contributed by a building material when involved in fire.

The amount of work necessary to review all the existing tests in B.S. 476, and to agree and standardize the new tests, is considerable and so it may be necessary to issue the new standards individually instead of *en bloc*.

*GLC/4 Observation and Gauge Glasses for Pressure Vessels.*

Representative: E. F. Barton.

No meetings of this Committee have been held during 1963.

*GLC/5 Safety Glass for Marine Purposes.* Representative: E. F. J. Baugh.

Final Draft Specifications have now been completed, and it is anticipated that these will be approved by the Committee concerned in the course of the next six months.

*INE/6 Pressure Gauges.*

*INE/8 Revolution Indicators and Records.* Representative: R. A. Collacott, B.Sc., Ph.D.

There has been no major activity on the above Committees during the year. Various sub-committees have been concerned for INE/6 Pressure Gauges have been occupied with the problems of standardizing markings in accordance with the codes of other countries but the results have not produced any major modifications to the existing Standards.

*INE/6/2 Pressure Gauges (Drafting).* Representative: E. G. Hutchings, B.Sc.

No meetings of the above Committee were held during 1963.

*ISE/- Iron and Steel Industry Standards.* Representative: W. Rennie.

A meeting of the Industry Standards Committee was held on 1st March 1963, to review the progress of the Technical Committees on new and revised standards, on co-operation with the International Standards Organisation and on the planning of committee work currently in hand.

*ISE/6 Steel Castings.* Representative: E. Burnett, M.B.E.

No meetings were held during the past year and there is nothing of interest to report.

*ISE/31 Wrought Steels.*

*ISE/31/1 Carbon Steels.*

*ISE/31/2 Alloy Steels.* Representative: W. Rennie.

The work of the Technical Committees of ISE/- during the year has resulted in the following publications.

*New Standards Published:*

P.D. 5032 Addendum No. 1 to B.S. 4 Structural steel sections.

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- Part 1: Hot rolled sections.  
B.S. 1449—Steel plate, sheet and strip.  
Part 2A: Carbon steel plate rolled by the non-continuous process.  
Part 2B: Carbon steel sheet rolled by the non-continuous process.  
Part 3A: Hot-rolled mild and carbon steel strip.  
Part 3B: Cold-rolled mild and carbon steel strip.  
B.S. 3592—Steel wire for rubber hose reinforcement.  
Part 1: Round and flat coated mild steel wire.  
B.S. 3617—Stress relieved seven wire strand for pre-stressed concrete.  
B.S. 3706—Mild steel for general engineering purposes.

### Revised Standards Published:

- B.S. 29—Carbon steel forgings for shipbuilding and general engineering purposes.  
B.S. 1775—Steel tubes for mechanical, structural and general engineering purposes.

### Standards Withdrawn:

- B.S. 44—Cast iron pipes for hydraulic power.

*ISE/35/9 Austenitic Cast Iron.* Representative: T. A. Rush.  
No meetings of this Committee were held during 1963 and the only document received was a copy of the Draft Australian Standard Specification for Austenitic Cast Iron.

*ISE/62 Steels for Pressure Vessels.* Representative: W. R. Harvey, O.B.E.  
No meetings of the above Committee have been held during the year.

*MEE/- Mechanical Engineering Industry Standards:* Representative: S. Archer, M.Sc.

During the period under review 36 standards were approved and issued, either as new or revised publications. These include the following of interest to marine engineers:

### New Standards Published:

- B.S. 487—Fusion-welded steel air receivers.  
Part 2: Receivers to Class 1 requirements.  
B.S. 3500—Methods for creep and rupture of metals.  
Part 6: Tensile stress relaxation testing.  
B.S. 3518—Methods of fatigue testing.  
Part 3: Direct stress fatigue tests.  
Part 4: Torsional stress fatigue tests.  
B.S. 3580—Guide to design considerations on the strength of screw threads.  
B.S. 3603—Steel pipes and tubes for pressure purposes: Carbon and alloy steels: Low temperature duties.  
B.S. 3604—Steel pipes and tubes for pressure purposes: Low and medium alloys.  
B.S. 3605—Steel pipes and tubes for pressure purposes: Austenitic stainless steel.  
B.S. 3627—Dimensions of compression and oil control rings and piston ring grooves for internal combustion engines.  
B.S. 3643—International Standards Organisation metric screw threads.  
Part 1: Thread data and standard thread series.  
B.S. 3673—Spring retaining rings.  
Part 1: Carbon steel circlips.  
B.S. 3683—Glossary of terms used in non-destructive testing.  
Part 1: Penetrant flaw detection.  
Part 2: Magnetic particle flaw detection.  
B.S. 3688—Methods for mechanical testing of metals at elevated temperatures.  
Part 1: Tensile testing.  
B.S. 3692—Dimensions of ISO metric precision hexagon bolts, screws and nuts.  
B.S. 3696—Master gears.

### Revised Standards Published

- B.S. 240—Method for Brinell test.  
Part 2: Verification of the testing machine.  
B.S. 721—Worm gearing.  
B.S. 818—Cast iron straight edges (bow shaped and I-section).  
B.S. 848—Methods of testing fans for general purposes including nine fans.  
Part 1: Performance.  
B.S. 1131—Plain bearings (metal).  
Part 4: Dimensions of thin-walled bearing half-liners and thrust half-washers.  
B.S. 1639—Methods for the bend testing of metals.  
B.S. 1700—Memorandum on ships derrick rigs.  
B.S. 1726—Guide to the design and specification of coil springs.  
Part 1: Helical compression springs.

*MEE/6/19 Gear Hobbing Machines.* Representative: J. Rogerson.  
The above Committee did not meet during 1963.

*MEE/11/4 Marine Flanges.* Representative: J. Liddell, B.Sc.

One joint meeting of the British Standards Technical Committee and Sub-Committees for Flanges was held and during the course of the meeting consideration was given to the existing British Standard 3022:1924 Marine Flanges.

Various organizations and firms directly interested in marine flanges had been requested to furnish their comments on a proposal that consideration might be given to accepting the new British Standard 10:1962 "Flanges and Bolting for Pipes, Valves and Fittings", for marine engineering purposes in view of the comprehensive nature of this new Standard and the extensive work undertaken in preparing the revision. In light of the comments received it was agreed that Sub-Committee MEE/11/4 Marine Flanges, should review British Standard 10, with reference to its adoption for marine applications, and make recommendations for any necessary addendum or amendment to B.S.10.

It was also agreed that British Standard 3022:1924 Marine Flanges be withdrawn.

*MEE/17/7 Gears for Turbines and Similar Drives.* Representative: J. Rogerson.

This Committee did not meet during the year.

*MEE/21/3 Welded Steel Air Receivers.* Representative: T. D. Shilston.

British Standard 487: Fusion Welded Steel Air Receivers, is now issued in two Parts.

- Part 1 For pressure not exceeding 500lb./sq. in.  
Part 2 Receivers to Class 1 requirements.

*MEE/29 Pump Tests.* Representative: C. Winyard.

No meetings of the above Committee have been held during the year 1963 and in consequence there are no new Standards on which to report.

*MEE/34 Land Boilers.* Representative: J. Liddell, B.Sc.

The Committee met on one occasion to receive a report on the activities of all sub-committees and panels functioning under the responsibility of MEE/34. It was agreed that the whole structure of the sub-committees and panels under Technical Committee MEE/34 should be rationalized and the Secretary was requested to prepare and circulate to the members in due course a diagram showing the revised structure, possibly integrating some of the panels into the appropriate sub-committees.

The Committee discussed and supported the suggestion that requirements for marine boilers should be included in British Standards. In view of this decision it was proposed to change the title of this Committee to "Technical Committee MEE/34 Boilers" and the revised terms of reference would now read "To have overall responsibility for national and

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international work on land and marine boilers and their appurtenances”.

On the international work on boilers, approval was given to the report of last year's Essen Meeting of the Technical Committee of the International Standards Organisation ISO/TC11. Members expressed appreciation and satisfaction with the progress being made in revising the British Standards dealing with boilers and related subjects by the sub-committees with a view to bringing them into line with the ISO Boiler Code.

*MEE/34/1 Cylindrical Boilers.* Representative: J. Liddell, B.Sc.

No meetings of the above Committee have been held during 1963.

*MEE/34/2 Water Tube Boilers.* Representative: J. Liddell, B.Sc.

Several meetings of the drafting panel of this Committee were held to continue with the revision of British Standard 1113:1958, “Water Tube Boilers and their Integral Superheaters”. Good progress was made with the work and such amendments as were necessary have been considered and drafted with a view to bringing the Specification into line with the International Standards Organisation Boiler Code.

The decision made by the Technical Committee MEE/34 Land Boilers that requirements for marine boilers should be included in British Standards was considered and it was arranged that an *ad hoc* Panel should be set up to consider and report on the best means of implementing this decision.

*MEE/34/6 Mountings and Fittings.* Representative: J. Liddell, B.Sc.

The Committee met on several occasions to continue with the revision of British Standard 759:1955 “Valves, Gauges and Other Safety Fittings for Application to Land Boilers and to Piping Installations for and in Connexion with Land Boilers”. Good progress was made and a second Draft Revision of the Specification is about to be considered by the Committee. The revision has been undertaken mainly to incorporate such modifications as are entailed by the adoption of the Unified Boiler Code of the International Organisation for Standardization (ISO), but there will be other changes and additions which should prove helpful to users of this Standard.

*MEE/34/8 Pipes and Piping.* Representative: J. Liddell, B.Sc.

The drafting panel of this Committee met on several occasions to continue with the revision of British Standard 806:1954, “Ferrous Pipes and Piping Installations for and in Connexion with Land Boilers”. Good progress was made with the work and it is hoped that a Final Draft Revision of British Standard 806 will be completed in the near future for circulation to industry for technical comments.

*MEE/34/15 Corrugated Furnaces for Cylindrical Boilers.* Representative: J. Liddell, B.Sc.

No meetings of this Committee were held during 1963.

*MEE/36 Shaft Couplings.* Representative: S. Mathews.

No meetings of the above Committee were held during 1963 and there is nothing to report.

*MEE/39 Compressors, Exhausters and Fans.*

*MEE/39/4 Fans for General Purposes.* Representative: S. J. Jones, B.Sc.

There have been no meetings of the above Committees and all that can be reported is that Part I of British Standard 848, dealing with methods of testing fans for general purposes, was published during 1963 and it is now suggested that the Committee should follow on with a second document dealing with the measurement of noise associated with fans.

*MEE/63 Ships' Side Scuttles and Frames.* Representative: E. F. J. Baugh.

Final Draft Specifications have now been completed, and

it is anticipated that these will be approved by the Committee in the course of the next six months.

*MEE/81 Valves for Gas, Water and Steam.* Representative: J. G. Robinson.

One meeting of this Committee was convened during 1963 to consider whether new British Standards should be prepared for valves of lower quality with special reference to valves for internal combustion engines and endeavour to standardize on end to end dimensions of screwed end valves.

Both these matters are now to be considered by MEE/81/3/1 who are revising British Standard 2060, 1952 and 1953.

*MEE/81/3 General Purpose Valves.* Representative: J. G. Robinson.

The Committee met nine times during the year continuing work on the second Draft Standard for “Cast Iron Screw Down Stop Valves” together with the Draft Standards for “Parallel Slide Valves and Wedge and Double Disc Gate Valves”.

A drafting panel of the above Committee also met three times during the year to consider revisions of British Standard 2060, 1952 and 1953: work continues on these Standards.

*MEE/91 Jointing Materials and Compounds.* Representative: N. Macleod.

Meetings of Sub-Committees 91/4 and 91/6 have been held during 1963. The position at the end of the year was: *Sub-Committee MEE/91/4, Dimension of Gaskets.* This Sub-Committee is considering a revision of British Standard 3063 consequent on the issue of British Standard 10. A Draft Revision has now been agreed and is being circulated to industry for comment.

*Sub-Committee MEE/91/6 Paper and Cork/Paper Jointing.*

This Sub-Committee is engaged in drawing up Draft British Standards for paper jointing, cork/paper jointing and cork gasket jointing.

*MEE/93 Lubricating Nipples used for Grease Lubrication in Machinery and Vehicles.* Representative: G. F. Gatward.

There were no meetings of the above Committee during 1963 and the only item to report is that British Standards have it in mind to prepare a British Standard for Grease Gun Nozzles for Lubricating Nipples covered by British Standard 1486 Parts I and II, but are still awaiting proposals from the various manufacturers.

*MEE/123 Diesel and Gas Engines.* Representative: J. G. Robinson.

No meeting of this Committee was held in 1963, although members were circularized with regard to points arising out of the wording of British Standard 649 and British Standard 3109 clauses on Torsional Critical Speeds and Rating.

*MEE/158 Mechanical Balancing of Rotating Machinery.* Representative: S. Archer, M.Sc.

This Committee has now produced two Specifications, namely: 1) Glossary of Terms for Mechanical Balancing, and 2) Balancing Machines.

These have been circulated for approval by the Technical Committee.

*MEE/158/2 Mechanical Balancing of Rotating Machinery (Marine Applications).* Representative: S. Archer, M.Sc.

This Specification has now been issued in draft form for comment by industry.

*MEE/161 Engine Conventions and Definitions.* Representative: J. Calderwood, M.Sc.

This Committee has held no meetings during the year, as the main object of this work is being covered now by ISO/TC70 Committee and there has been considerable correspondence between British Standards Institution and the International Standards Organisation, the members of the

## *Annual Report of the Council for 1963*

Committee having been asked to comment on each of the ISO documents which have been presented and having also been represented at two ISO meetings.

The work done so far is related to definitions of engine ratings, definitions of direction of rotation and definitions of engine numbering. The former is as yet little more than preliminary proposals; for the other two, proposals have been put forward which have been opposed strongly by MEE/161,

as they are the exact reverse of existing British Standards.

Probably, some finalized documents from ISO/TC70 may be received during the next year.

*PTC/2 Fuel Oils.* Representative: R. Munton, B.Sc.

No meetings of this Committee have been held during 1963.



# Minutes of Proceedings of the Seventy-fifth Annual General Meeting

21st April 1964

The Seventy-fifth Annual General Meeting of the Institute was held in the Memorial Building, 76 Mark Lane, London, E.C.3, on Tuesday, 21st April 1964 at 5.30 p.m.

The Chairman of Council, Commander F. M. Paskins, O.B.E., R.D., R.N.R., occupied the Chair.

The minutes of the preceding Annual General Meeting having been published in the May 1963 issue of the *TRANSACTIONS*, were taken as read, confirmed and signed.

## *Introductory remarks by the Chairman*

The CHAIRMAN explained that the President, Sir Nicholas Cayzer, Bt., was unavoidably absent. He gave a reminder that only members were entitled to be in the hall during the Annual General Meeting, and that only those who had paid their subscriptions could vote on the special resolution.

## *Presentation of Annual Report by the Secretary*

The Secretary (Mr. J. Stuart Robinson, M.A.) presented the Annual Report for 1963.

## *Presentation of Annual Financial Statement by the Honorary Treasurer*

The HONORARY TREASURER, Mr. J. Calderwood, M.Sc. (Vice-President) drew attention to the special resolution, and said that there had been a deficit over the past year of some £8,000, making a total deficit over the last two years of round about £14,000. As everybody knew, costs had been going up, and it was six or seven years since there had been any alteration made in the subscriptions. There was, on the past method of working, no easy method of knowing how much the arrears would be at the end of the year. However, this year the procedure had been altered, and whilst there was a rather greater amount of arrears of subscriptions than normal, it should be known shortly exactly what they were, and there would be a better check on people who had not paid their subscriptions.

Another point to bear in mind was that investment interest over the last year had dropped, although not on the main holdings of securities; in fact, these had gone up slightly. At the beginning of each year there was a very substantial amount of money in hand as most members paid their subscriptions early. This money could not be put into permanent investments so it was put into temporary loans of one kind and another, and those fluctuated. The bank rate being rather low last year, they were only getting somewhere around 5 per cent on those loans, whereas in 1962 they were getting just over 7 per cent.

The main cause of the increased costs came from the *TRANSACTIONS*, the increased cost being mainly due to the reduction in advertising revenue. He thought that all technical journals had suffered in this respect over the past two or three years.

Another item to be taken into consideration was the Year Book, which was usually only published every two years. An allowance of £800 per year had been made for this but, in fact, with rising costs of printing, the cost was now exceeding £800.

There had only been a very small increase in staff, and wages had not gone up out of proportion to the general increase in wages. It should be remembered that some of the staff were not so well paid as people in similar jobs elsewhere, and therefore he thought that the cost of staff next year would be increased by a bigger amount than occurred in the present year.

There was not a great deal to be said on the building fund. The general write-off was fairly satisfactory. The return from rents, etc. was good, and it was anticipated that there would be a reduction in the rates due to the Institute's status now under the Charities Commission.

The accounts had to be kept in two halves. One half came from membership subscriptions, which was spent on members, and the other half related to building fund profits which could not legally be spent for the direct benefit of members. It could be spent on general services of any kind, such as extension of overseas activities, education, etc., and some of the money was being put aside for special funds for education.

He had much pleasure in submitting the Accounts, and if there were any questions he said he would do his best to answer them.

## *Adoption of Annual Report and Accounts*

COMMANDER H. T. MEADOWS, D.S.C., R.D., R.N.R. (Member) said that it was a great privilege to be allowed to propose the adoption of the Annual Report and Accounts covering what must be the most active, and indeed, exciting year in the history of the Institute since the Report covering the decision to construct the Memorial Building. It might be a good thing to remember Mr. Alfred Robertson and their other elders at that time who, by their foresight and courage, had made possible some of the decisions which the Council had taken during the last year. He was referring, of course, to the introduction of the Technical Scheme for the Advanced Training of Marine Engineers. This was a magnificent first step in the direction of ensuring a continuity of highly trained men and, along with their membership of the Engineering Institutions Joint Council, would, he thought, help to consolidate the marine engineer's status in the outside world, as engineers.

He asked members to imagine the amount of time and effort spent in deliberation by the Council. Such decisions as they had made could not have been arrived at lightly.

The objectives of their Institute had also continued to be implemented in the past year by a visit of the Chairman of Council and the Secretary, to Canada, the United States, New Zealand and Australia. This was surely an enormous task, and no doubt special thanks would be given to them and their wives later on in the evening for their efforts on behalf of the Institute. He had no wish to steal thunder, but it was difficult to comment on such great activity without thanking those responsible, at least in passing.

Membership had continued to rise. Sections in Britain and all over the world thrived and were very active, both

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academically and socially, and showed their robust health and vigour by not always being in agreement with London or Headquarters or whatever they chose to call Council.

The increased cost of the TRANSACTIONS was again mentioned in the Accounts. Rather apologetically this was attributed to a further drop in advertising revenue, as though perhaps this was somebody's fault. He suggested that the time had come when the revenue from advertising in the journal of an institution such as theirs be treated as incidental rather than essential, and that in future Reports it be not even mentioned other than as an entry in the Accounts.

It had been an eventful year, and although there was an excess in expenditure over income of £8,000 odd, the year had only cost £1,749 more than the previous year, which was small payment indeed for their activities in days of continued inflation.

He formally proposed that the Annual Report and Accounts be adopted.

MR. D. M. REID (Member) said that owing to the sudden and unfortunate indisposition of the member who was originally to have seconded the proposal, he had been called on at rather short notice to do so. He was more impressed than ever with the size and complexity of the Report; he had, however, read through it as well as he had been able, and he was sure everyone would agree that such a document could only have been produced by a very healthy organization.

It was obvious from the Report that the Institute had continued to grow, both at home and abroad. It was equally obvious that the Council had been very much concerned with important matters of professional status. They had given a great deal of time, thought and action to the question of educational standards.

On reading through the Report he had been impressed by the number and variety of the committees on which members of the Institute served.

He thought that all those concerned with the production of the Report were to be congratulated. He had much pleasure in seconding the proposal.

The CHAIRMAN thanked Commander Meadows for the proposal he had made; he was an old friend of the Chairman who very much appreciated his support. He also thanked Mr. Reid, particularly as he had been called on at a late hour to second the proposal because of the inability of Mr. Jackson to attend.

There being no questions or comments, the motion was put to the meeting and *carried unanimously*.

### Presentation of Awards for 1963

The CHAIRMAN then presented the following awards:  
*Denny Gold Medal* to R. Munton, B.Sc. (Member of Council), J. McNaught (Member) and J. N. Mackenzie (Member) for their paper entitled "Progress in Automation".

*Institute Silver Medal* to A. J. Johnson, Ph.D., B.Sc., A.C.G.I., and W. McClimont, B.Sc. (Member) for their paper entitled "Machinery Induced Vibrations".

*Akroyd Stuart Award for 1961/63* to P. Jackson, M.Sc. (Member of Council) for his paper entitled "The Doxford Direct Drive Diesel Engine".

*Extra First Class Certificate Examination: Institute Award* to A. H. Syed (Associate Member).

*Frank Roberts Award* to D. Butterfield (Student).

### Report of the Scrutineers

The CHAIRMAN read out the Report of the Scrutineers and announced that the President for the next Session would be Mr. A. Logan, O.B.E. and that the following had been elected:

Vice-Presidents:

*United Kingdom:* J. P. Campbell  
E. C. Cowper  
W. J. Ferguson, M.Eng.  
F. C. M. Heath  
Vice-Admiral Sir Frank Mason, K.C.B.  
H. E. Upton, O.B.E.

*Canada:* Lieutenant-Colonel S. D. Clarke, B.Sc., P.Eng.

Members of Council: S. Archer, M.Sc.  
D. A. Eaton, B.Sc.  
G. S. Jackson  
D. M. Reid  
A. T. Willens

Associate Member of Council: G. F. Gatward

### Vote of thanks to Scrutineers and re-appointment for 1964/65

The CHAIRMAN extended a whole-hearted vote of thanks to the Scrutineers who had done their job nobly and conscientiously. (*Carried by acclamation*).

The CHAIRMAN proposed the re-appointment of the Scrutineers, Messrs. G. H. Garner, A. L. Covell, M. W. Dunham and E. R. Hall, for the year 1964/65. *This was agreed.*

### To consider as special business and, if thought fit, to pass the Resolution set out in the notice convening the meeting

The HONORARY TREASURER thought that it would be evident from the Financial Report that some increase in subscriptions was necessary, but that an explanation of the resolution was desirable. It was really two resolutions. In the past, whenever subscriptions had had to be altered, there had to be both a resolution passed at the Annual General Meeting, and permission obtained from the Privy Council.

In the resolution there were two sets of rates of subscriptions. The first was considerably higher than the other, but in each case it said "not more than so much". The object of this was that in future subscriptions could be altered by a resolution passed at an Extraordinary General Meeting or an Annual General Meeting, without going to the Privy Council.

It might be thought that the proposed increase was rather large, because the Accounts indicated that another 10s. or 15s. average would meet the immediate costs. This had been discussed at considerable length, both in the Finance Committee and in Council, and it was the general feeling that an increase should be made such that first it would be possible to repay quickly what had been drawn from the reserves, and secondly, it would be sufficient to meet increasing costs for a number of years. The Council did not think it was a good thing to go to the members frequently and ask for small increases.

In comparison with other institutions, he believed that their subscriptions, even at £6 6s., were low. There were 591 members for every member of the staff. The nearest comparable institution had 400, and the rest ranged from about 240 up to 400, which indicated that the Institute's staff were certainly running the place efficiently and with small numbers. He had not details of comparative costs, although he had seen them and was able to tell members that the Institute showed up remarkably well in this respect compared with other institutions. Although subscriptions were raised in 1958, the average subscription per member on the increased membership was less at the present time. This was a very satisfactory thing; it meant that there were a lot more junior members than there used to be.

Going through costs, the establishment expenditure had actually gone down slightly. The administration had gone up by 6s. per member, and the big increase had been in the general services, i.e. journals, running the sections, library, etc., which was nearly £1 per member increase over the last six years.

He said he had pleasure in proposing the resolution and hoped members would accept it.

MR. W. YOUNG, C.B.E. (Vice-Chairman of Council), in seconding the resolution, said that the unfortunate thing was that they could not see any possibility, at least in the immediate future, of any reduction in the rate of increase. The remarkable thing to him was that such a resolution had not had to be put forward a considerable time previously. The financial position, as would be seen from the Report, was under the closest and almost continuous review, but it was quite clear that an increase in income was absolutely essential at this

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point if the Institute was to maintain its present level of activities. The subscriptions which the Institute had levied in the past had, as the Honorary Treasurer had pointed out, compared very favourably indeed with other comparable bodies, and even if the resolution were adopted (as he hoped it would be) this position would still be maintained. He felt sure that having regard to the quality of services which members enjoyed, they all had a very good bargain, and when one considered that one got a rebate on income tax on the subscription, it made one feel even better.

Some members were of the opinion that some of the surplus of the Building Fund should be used to maintain a low rate of subscription, but this was not an acceptable policy.

He was sure that some members felt that the contemplated association with the Engineering Institutions Joint Council could well be the reason why the subscriptions were being affected, but although this financial liability was by no means a negligible one, it was relatively small in comparison with the rising costs of maintaining the standard of services. It was essential to maintain this standard of services if the Institute was to continue to retain the interest of its members and to interest new members in joining.

He felt sure that members would agree that the proposals contained in the resolution were most reasonable.

*The resolution was carried unanimously.*

The CHAIRMAN then invited the new President, Mr. A. Logan, O.B.E. on to the platform.

The PRESIDENT said that when he had joined the Institute as a Graduate, some forty years previously, he had had no idea that one day he would be its President. He thanked Council and members for nominating him. He said that during the forthcoming year he would do his best to strengthen the Institute and to strengthen the status of the marine engineer.

### *Other Business*

The CHAIRMAN said that the past year had been a tremendously interesting one, full of complicated and exacting problems affecting all the members of the Institute. Apart from the decision to increase subscriptions (and he appreciated the way this had been accepted) Council had taken other important decisions, one being to accept the invitation to play its full part in the newly formed Engineering Institutions Joint Council. The Joint Council had been in being for 18 months, and had taken a long time to bring all the institutions together which in itself was a major achievement. It was for that reason that Council had been rather a long time in coming forward with all the information that members had, in one way or another, been seeking. It was only now that the Council had been able to make a complete and authoritative statement, and this would be circulated with the April TRANSACTIONS. In order that members would understand the statement fully the President (with or without the Chairman of Council) and the Secretary would visit every section throughout the United Kingdom during the last week of May and the first week of June, and explain all the intricate problems involved.

What was being planned would, he was certain, be a great advance towards the future for the Institute and of advantage to all its members. The Council had considered that it was essential to go ahead with the project of joining the Engineering Institutions Joint Council as they felt that such membership would bring great benefits in the future to all members of the Institute, both senior and junior. It was apparent to the Council that the Institute, by joining the Engineering Institutions Joint Council, had everything to gain; not to join would mean that the Institute would be giving away everything for which its members had been working over the years.

He hoped that in the not too distant future the Council would be able to call a Special Meeting in order to get the approval of all the members for the Institute to go forward and to remain a full constituent member of the Engineering

Institutions Joint Council. He appealed to members to give the proposal their whole-hearted support.

### *Resolution of thanks to the President*

The CHAIRMAN paid tribute to the President, Sir Nicholas Cayzer, Bt. Unfortunately, Sir Nicholas had not been able to attend all the meetings and functions, but he had been a tower of strength in the background. He was sorry that Sir Nicholas had not been able to be present at the meeting, but he assured members that he had the interests of everyone, the marine engineers in shipping in particular, at heart.

He asked members to join him in passing a resolution of thanks and appreciation for all the help Sir Nicholas had given and would undoubtedly continue to give in the future.

*The motion was formally seconded and carried by acclamation.*

### *Vote of thanks to the Council and Officers*

MR. J. McNAUGHT (Member) said that he was pleased to have the privilege of expressing gratitude to the Council and Officers of the Institute for their efforts during the past strenuous year. Members of Council gave freely of their time to Institute affairs, and this was much appreciated. It was a time of change and revolutionary thought, and these things were having their impact on the education and status of marine engineers. That these matters were receiving careful consideration in Council was evident from the remarks that had already been made.

Under the able leadership of the Secretary, the staff had done excellent work in carrying out the requirements of Council and keeping members fully informed through papers and TRANSACTIONS of Institute and other affairs. Anyone who had had any dealings in the Institute could not fail to be impressed by the courtesy and efficiency of the staff.

He had great pleasure in proposing the vote of thanks to the Council and Officers.

MR. I. W. ROBERTSON (Associate Member) said that nothing could be simpler than standing up and saying "I second Mr. McNaught's vote of thanks" and then sitting down, but, keen as everyone was to get on to Mr. Norris's paper, only once a year were they able collectively to show their appreciation to the Council and Officers, who were hard-working chaps with a lot on their plates and a great deal of responsibility. They had done, and were doing, a great job in what surely must be very difficult times. He said he would like to ask the Council for their guidance and leadership once more. His livelihood was concerned with electrical equipment in ships and he was alarmed at the attitude of the marine industry to the electrical specialist. Ships were becoming stuffed with more and more complicated machinery, and a large proportion of that machinery was electrical, and was in the charge of a marine engineer. Some ships carried electricians; others did not. Some lines had a superintendent of electrical engineers, but he wondered what encouragement and assistance was given to the electrical engineers and what steps were taken to help the marine engineer on the extension of his electrical knowledge. These electrical men lived their lives with the sea and with marine engineering, and it was surely right and proper that the Institute should support and encourage them. It might be said that there was a proper professional institution for the electrical engineer, but the marine electrical engineer might well fall between two stools. These men were few in number but vital to the Institute of Marine Engineers. He therefore suggested that the Council should bear these specialists in mind.

He said it was a privilege to second the vote of thanks to the Council and the Officers of the Institute.

*The motion was carried by acclamation.*

### *Reply by the Chairman of Council*

The CHAIRMAN OF COUNCIL thanked Mr. McNaught and Mr. Robertson for their remarks concerning the work of the Council and Officers of the Institute. During his first six months as Chairman of Council he was very much a stranger to the way the Institute was administered, and only in the last

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six months had he gradually got to know the full value of the work that was being undertaken in the Institute; now his term of office was finished, and it was not an easy matter for the Secretary and his staff to brief new chairmen, new members of Council and administer the Institute as they did. He thought everybody owed a special vote of thanks to the Secretary and his staff for the way they carried out their duties.

He said that if any members were going abroad and felt that they had time to read a paper or even enter into a technical discussion, they would be overwhelmingly welcomed by any of the overseas sections. Colleagues abroad were crying out for support, for papers to be read, or for people who had more knowledge, to join them in discussion. Any member interested in doing this should write a note to the Secretary who would communicate with the appropriate people.

Speaking unofficially, he said that he did know that the presence of the electrical officer in a ship was tremendously appreciated. Every engineer appreciated the complex problems that every ship now coming into service brought with it. The electrical engineer officers were now getting more recognition in every way than they had had in the past. It was a gradual procedure, but engineers also had had to gain their recognition gradually. He was quite sure that recognition

would come to the electrical officers in the future and that the engineers would be only too pleased to welcome them and give them all the help they could.

### *Closing remarks by the Chairman*

The CHAIRMAN, in closing the meeting, pointed out that the diploma in technology course at Battersea was open to all members, whether in the United Kingdom or overseas.

He and his wife and the Secretary and his wife had had the great privilege of undertaking a most interesting tour overseas, and they were most grateful to members for making this possible. It had been a wonderful experience, and he thought they had been able to bring the Institute closer to many people. He hoped that other chairmen of Council, with the Secretary, would have the same privilege, enjoyment and pleasure that he had had.

In conclusion, he thanked everybody for their support in his year of office, in particular Mr. Robinson and his staff, Mrs. Sullivan, Miss Pinder, Mr. Franklin and Mr. Pearce, who had always been so helpful. It had always been a pleasure to visit the Institute.

*The proceedings terminated at 6.38 p.m.*

# Twenty-fourth Annual General Meeting of the Education Group

Monday, 4th May 1964

The Twenty-fourth Annual General Meeting of the Education Group of the Institute was held on Monday, 4th May 1964. The Chair was occupied by Mr. S. Hogg, O.B.E., Chairman of the Executive Committee.

The Minutes of the preceding Annual General Meeting, which had been circulated, were confirmed and were signed by the Chairman.

### *Annual Report*

The CHAIRMAN said that the work of the Committee had been mainly directed to organizing the Symposium which was to follow the Annual General Meeting.

With the Institute's participation in the Engineering Institutions Joint Council the Committee had given some consideration to the academic requirements for membership of the E.I.J.C. In brief, an amended Engineering Institutions Examination, Part II, might well be the yardstick of the E.I.J.C., and the Committee had recommended to Council the acceptance of these proposals. The present Common Part I examination had also been reviewed, and the Committee had recommended to the Council that the proposals were acceptable, but at this stage it would be premature to discuss the amendments to either Part I or Part II syllabuses. Until they were confirmed by the E.I.J.C. it would be premature to comment.

The other activities of the Committee had been concerned with such items as the Junior Lectures at the Technical Colleges and the Sections of the Institute up and down the country. These continued to be popular and the Committee wished to record their thanks to those lecturers who gave so much of their time preparing and delivering them.

In an endeavour to be brief he might have omitted something or failed to give a clear picture of the volume of routine educational work handled by the staff of the Institute. This volume was bound to grow when the E.I.J.C. got into gear. He would not weary the meeting with the details of how he visualized this additional work developing, but when the new By-laws of the Institute were discussed in some detail it would become very apparent to everyone that there would be a considerable volume of work associated with these examinations.

The Committee's meetings, while infrequent, involved

members of the Committee in quite a volume of correspondence with the Secretary, on such matters as College claims for recognition, or exemption from parts of the Associate Membership examination, and assessing the results of the few candidates who took these examinations.

This covered the main features of the work of the Committee.

There were no questions on the Chairman's Report.

### *Election of Chairman*

The CHAIRMAN announced that the Executive Committee had nominated Mr. D. M. Reid as Chairman for the ensuing session.

There being no other nominations, the Chairman declared Mr. Reid duly elected.

### *Election of Vice-Chairman*

The CHAIRMAN announced that the Executive Committee had nominated Mr. A. W. Bell, B.Sc. as Vice-Chairman for the ensuing session.

There being no other nominations, the Chairman declared Mr. Bell duly elected.

### *Election of Members of the Executive Committee*

The CHAIRMAN said that the next item was the election of members of the Executive Committee to fill vacancies caused by retirements. The Executive Committee nominated Mr. P. J. Howard, B.Sc. (Eng.) and Mr. C. H. Taylor-Cook, B.Sc. (Eng.). It was further recommended that Mr. S. Hogg, O.B.E., the retiring Chairman, and Professor G. H. Chambers, D.S.C. retiring at the end of three years, should be invited to become co-opted members of the Committee.

The recommendation was adopted.

### *Date of next Annual General Meeting*

It was agreed that the next Annual General Meeting should be held on 16th March 1965.

The CHAIRMAN said that this concluded the business of the Meeting.