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Chairman: A. C. HARDY, B.Sc. *Committee:* J. CALDERWOOD, M.Sc., F. D. CLARK, B. P. INGAMELLS, C.B.E., 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. CRAHAM, O.B.E., R.N.R., B. P. INGAMELLS, C.B.E., T. W. LONGMUIR, 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.

REPRESENTATIVES ON EXTERNAL ORGANIZATIONS

Association of Special Libraries and Information Bureaux
 British Conference on Automation and Computation: Engineering Applications Group
 British National Committee for Non-destructive Testing
 British Shipbuilding Research Association, Research Board
 City and Guilds of London Institute: Advisory Committee on Shipbuilding, Ship Joinery, Yacht and Boat Building
 College of Technology, Portsmouth
 East Ham Technical College: Engineering Advisory Committee
 Engineering Institutions Examinations Standing Committee for Part I
 Institution of Electrical Engineers: Ship Electrical Equipment Regulations Committee
 Institute of Welding
 International Institute of Refrigeration: Standing Committee
 Joint British Committee for Stress Analysis
 Joint Committee on Materials and Their Testing of Technical Institutions and Societies in Great Britain
 Lloyd's Register of Shipping: Technical Committee
 Northern Advisory Council for Further Education (Advisory Committee for Engineering)
 Poplar Technical College, Board of Governors
 Riversdale Technical College, Board of Governors
 Royal Naval Reserve (General Service) General Committee
 Southampton University: Advisory Committee, Department of Marine Engineering
 Sunderland Technical College: Advisory Committee for Electrical Engineering, Mechanical and Marine Engineering, and Naval Architectural Departments
 Welsh College of Advanced Technology, Cardiff
 World Power Conference, British National Committee

J. STUART ROBINSON, M.A.
 H. E. UPTON, O.B.E., and J. STUART ROBINSON, M.A.
 R. H. PADDON ROW
 T. W. BUNYAN, B.Sc.
 C. H. TAYLOR-COOK, B.Sc.(Eng.)
 G. M. KENNEDY
 R. S. BRETT
 C. H. TAYLOR-COOK, B.Sc.(Eng.)
 A. N. SAVAGE
 JAMES TURNBULL, O.B.E.
 K. C. HALES, B.A.
 T. W. BUNYAN, B.Sc.
 R. COOK, M.Sc.
 A. LOGAN, O.B.E., and H. J. WHEADON
 A. W. JONES, B.Sc.
 D. G. ALCOCK
 T. KAMEEN
 F. D. CLARK
 ENG. CAPT. W. A. GRAHAM, O.B.E., R.N.R.
 W. R. JONES
 D. SKAF
 A. C. HARDY, B.Sc.

BRITISH STANDARDS INSTITUTION

H. E. BEDFORD	CHE/18/2	Metallic Finishes (Quality)	J. CALDERWOOD, M.Sc.	MEE/32	Engineering Symbols and Abbreviations
H. J. WHEADON	C/37	Boiler Water Tests	J. LIDDELL, B.Sc.	MEE/34	Land Boilers
	C/37/2	Methods of Sampling Waters Used in Steam Generation		MEE/34/1	Cylindrical Boilers
	C/37/3	Methods of Boiler Water Treatment		MEE/34/2	Water Tube Boilers
W. McCLIMONT, B.Sc.	C/37/2/2	Sampling of Steam		MEE/34/6	Boiler Mountings and Fittings
A. N. SAVAGE	ELE/1/10	Marine Motors and Generators		MEE/34/8	Pipes and Piping
	ELE/3/2	Ships' Cables		MEE/34/9	Boiler and Superheater Tubes
	ELE/3/21	Heat-resisting Cables		MEE/34/15	Corrugated Furnaces for Cylindrical Boilers
S. J. JONES, B.Sc.	ELE/28	Electrical Fans	S. MATHEWS	MEE/36	Shaft Couplings
	ELE/28/2	Methods of Measurement and Test of Fans	S. J. JONES, B.Sc.	MEE/39	Compressors, Exhausters and Fans
J. HASTIE	ELE/32/6	Radio Interference Suppression in Marine Installations	E. F. J. BAUGH	MEE/39/4	Fans for General Purposes
A. N. SAVAGE	ELE/51/5	Marine Transformers	A. LOGAN, O.B.E.	MEE/63	Ships' Side Scuttles and Frames
E. F. BARTON	GLC/4	Observation and Gauge Glasses for Pressure Vessels	W. O. HAMILTON	MEE/81	Valves for Gas, Water and Steam
E. F. J. BAUGH	GLC/5	Safety Glass for Marine Purposes	J. CALDERWOOD, M.Sc.	MEE/81/3	General Purpose Valves
R. W. CROMARTY	INE/4/5	Ships' Refrigeration Thermometers		MEE/81/3/1	General Purpose Valves (Drafting)
R. A. COLLACOTT, B.Sc., Ph.D.	INE/6	Pressure Gauges	LIEUT. CDR. A. P. MONK, D.S.C., R.N.	MEE/84	Ignition Equipment for Compression Ignition Engines
	INE/8	Revolution Indicators and Records	G. F. GATWARD	MEE/91	Joining Materials and Compounds
E. G. HUTCHINGS, B.Sc.	INE/6/2	Pressure Gauges (Drafting)		MEE/93	Lubricating Nipples Used for Grease Lubrication in Machinery and Vehicles
W. RENNIE	ISE/-	Iron and Steel Industry Standards	A. C. HARDY, B.Sc.	MEE/102	Numbering of Cylinders on I.C. Engines
E. BURNETT, M.B.E.	ISE/6	Steel Castings	R. W. CROMARTY	MEE/119	Plain Bearings
JAMES TURNBULL, O.B.E.	ISE/15	Iron and Steel for Shipbuilding	A. LOGAN, O.B.E.	MEE/123	Diesel and Gas Engines
W. RENNIE	ISE/31	Wrought Steels	T. D. SHILSTON	MEE/131	Dished Ends for Tanks and Pressure Vessels
	ISE/31/1	Gear Steels	S. ARCHER, M.Sc.	MEE/158	Mechanical Balancing of Rotating Machinery
T. A. RUSH	ISE/31/2	Alloy Steels		MEE/158/2	Mechanical Balancing of Rotating Machinery (Marine Applications)
S. ARCHER, M.Sc.	ISE/35/9	Austenitic Cast Irons	N. MACLEOD	NFE/27/3	White Metal Bearing Alloys and Tin Base Die Casting Alloys
	MEE/-	Mechanical Engineering Industry Standards	F. M. PASKINS, O.B.E.,	P/139	Prevention of Corrosion
J. ROGERSON	MEE/6/19	Gear Hobbing Machines	R. MUNTUN, B.Sc.	PTC/2	Fuel Oils
J. LIDDELL, B.Sc.	MEE/11/4	Marine Flanges	J. STUART ROBINSON, M.A.	UDC/269	Universal Decimal Classification Panel
F. P. BELL	MEE/12	Chains and Fittings	C. H. TAYLOR-COOK, B.Sc.(Eng.)	USM/2/5	Thermodynamics
J. CALDERWOOD, M.Sc.	MEE/12/6	Anchor Cables			
J. ROGERSON	MEE/13	Engine Testing Fittings			
	MEE/17/7	Gears for Turbines and Similar Drives			
T. D. SHILSTON	MEE/21	Air Receivers			
	MEE/21/1	Solid Drawn Air Receivers			
	MEE/21/2	Riveted Air Receivers			
	MEE/21/3	Welded Steel Air Receivers			

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The Charter specifies the objects for which the Institute exists. The first of these—"to enable Marine Engineers to meet and to correspond; . . ." has been met to an ever increasing degree over the last decade by extending the facilities for members to meet through the Section and Division organizations. The Institute is well established as a result of these activities in many parts of the world which means many more members can take an active part in the Institute's operations and as a consequence of this there has been a steady and high rate of numerical expansion.

Consideration is now being given to studying the second main object, namely, "to uphold the status of Members of the Institute . . . by prescribing standards of knowledge, etc." This is a very difficult and involved problem, aggravated no little by the present condition of the shipping industry. It is accepted, however, that if the marine engineer is to be given an enhanced status then this problem must be examined and the best solution adopted.

There is no doubt that the training of the young marine engineer is vitally linked with his status and that the Institute must take a leading part in promoting such projects as will achieve this object.

An opportunity to take a first exploratory step was presented by the visit paid to the Canadian Division in May by the Chairman of Council, Mr. W. R. Harvey, O.B.E., and the Secretary. This journey was made via New York so that both the United States Mercantile Marine Academy at King's Point and the New York State University could be visited. At these establishments entrants for the United States Mercantile Marine are trained. Discussions were held with the staff and the visits to both these establishments were found to be of great interest and value.

If the Institute is to be able to play a real part in this uplifting of the marine engineer's status then it is probable that over the years substantial funds will have to be made available. This focuses attention on the present position whereby the Institute's daily operating expenses continue to increase without the proportionate increase in income.

FINANCE

There is an excess of income over expenditure on the General Revenue Account of £2,470 compared with £6,468 last year, a decrease of £3,998. The increase of £4,346 in membership expenditure is due to the increasing cost of producing the TRANSACTIONS, STUDENT TRANSACTIONS and CANADIAN SUPPLEMENT. Four issues of the CANADIAN SUPPLEMENT were published compared with two issues in 1960 resulting in an increase of £1,146 in the charge for the CANADIAN SUPPLEMENT and part of the increase of £1,757 for reporting, abstracting and salaries. The disturbing feature of the TRANSACTIONS account is the decrease of £1,728 in advertising revenue.

The administration expenses have increased by £2,778 and reflect the increase in the cost of carrying out the administrative functions of the Institute. From the surplus brought forward an appropriation of £800 has been made to the Year Book Expenses Reserve and £1,000 to the Institute Premises Repairs Equalisation Account.

The Memorial Building Revenue Account shows a surplus of £30,210; an increase of £2,123 arising from the revised service charges which became payable on the 1st January 1961. From this surplus the annual appropriations of £15,000 to the Capital Account and £1,000 to the Memorial Building Redemption Fund have been made. Additional appropriations have been made of £4,000 to the Conference Expenses Reserve and £5,000 to the Development Fund. Payments made during the current year from these revenue reserve funds are shown under Note 3.

The Balance Sheet shows that the general financial position of the Institute continues to be sound. A further £19,459 has been invested during the year. Other monies available during the year have been placed on deposit account and on short term loans to Local Authorities.

EXTENSION OF THE INSTITUTE'S AREAS OF OPERATION

The successful first two years' operation of the Canadian Division has encouraged the Council to establish a similar organization in India. Its formation was discussed at a meeting in Delhi in January when the representatives of the main centres of membership in India met the Secretary. A number of proposals were made which were discussed by the Council and have been resolved as follows,

- i) that a Divisional organization should be established in India with, at the outset, its headquarters situated in Bombay;
- ii) that Rear-Admiral T. B. Bose, B.Sc., I.N., should be the first Vice-President for India. This position, apart from it being that of the senior member of the Institute in India, ensures that the voice of the Division can be heard directly at the Council table in that the Vice-President is a full voting member of the Council. It is hoped that Admiral Bose will be able to attend meetings occasionally;
- iii) that Mr. T. M. Sanghavi should be the first Secretary, in a part-time capacity;
- iv) that a Section should be formed in Delhi, it being felt that here was an opportunity to interest a large number of Naval Officers on the Headquarters Staff of the Indian Navy in the Institute and to provide them with some opportunities for the discussion of their particular problems;
- v) that a Southern India Section should be based on Cochin and Madras. It was agreed that neither Cochin nor Madras were at the moment large enough in numbers to operate singly but, as a combined unit with meetings separately held in each of the two cities, some organization should be possible;
- vi) that the members in Vizagapatam should be formed as a Sub-Section of the Calcutta Section;
- vii) that Corresponding Members should be appointed in Cochin, Delhi, Madras and Vizagapatam immediately with provision for Local Vice-Presidents being appointed in these cities as appropriate when Sections were formed;
- viii) that an Indian Supplement to the Transactions should be started;

Annual Report of the Council for 1961

- ix) that local matters such as the Institute representation on Government bodies should be the responsibility of the Divisional Officers.

In the last few months the Southern India Section has been formed, based on Cochin, and investigations are proceeding with the formation of a Section in Delhi. It is proposed that the first issue of the Indian Division Supplement shall be published in May 1962. It is a great pleasure to report that Admiral Bose has been able to accept the office of Vice-President and that Mr. Sanghavi is taking over the duties of the Secretary.

Associated indirectly with this development was the Shipping and Shipbuilding Conference held in Bombay in December. This conference was organized by the Bombay Section of the Institute, the Honourable Company of Master Mariners of India and the Institution of Marine Technologists from which it will be seen that the Indian members through the Bombay Section were able to play a part in its operation. The Conference was attended by many delegates from abroad, including the Chairman of Council, Mr. B. P. Ingamells, C.B.E., and the Secretary.

The Section in Karachi has been reformed as the Pakistan Group to encourage greater participation in the Institute's affairs in Pakistan. Up to the present time it has been impractical to arrange anything in the way of meetings in East Pakistan because of the spread of members over this part of the country. Now that the Institute's activities in Pakistan are conducted on a national rather than a regional basis it is expected that the East Pakistan members will be able to have the benefit of some meetings in their part of the country.

The Council are pleased to report that a Section in Ceylon is now operating and a Committee has been elected. The Secretary's presence at the Shipping and Shipbuilding Conference in Bombay provided an opportunity for him to visit Colombo where for the moment the activities of the Ceylon Section are centred.

The Chairman of Council also took advantage of the opportunity that this visit presented to spend a few days at the headquarters of the Pakistan Group in Karachi.

It is most encouraging to see how the members have responded to the formation of these new overseas organizations; for example, the membership of the Canadian Division has increased from 350 to 470 during the two years of its operation. This increase in membership should be compared with an average of ten per annum previously. Steady progress is also being made in India as well as Pakistan.

The Institutions of Civil, Electrical and Mechanical Engineers extended to the Institute, among other institutions, an invitation to join the extended Overseas Joint Group Organization. The Council is pleased to accept this invitation for areas where there are no Sections of the Institute operating

and where there are not sufficient numbers of members for a Section to be formed in the foreseeable future.

PRESIDENT 1962/63

The Council is particularly gratified to report that the Institute has been honoured by His Royal Highness The Prince Philip, K.G., accepting the Council's invitation to become President of the Institute for 1962/63.

SIR WILLIAM CURRIE, G.B.E.

It is with much regret that the Council reports the death of Sir William Currie, G.B.E., Past President, who was the founder of the Marine Engineers' National War Memorial Building Fund, and who took such a keen interest in the rehousing of the Institute in the Memorial Building.

BRITISH NUCLEAR ENERGY SOCIETY

The Council, on the recommendation of the Joint Panel on Nuclear Marine Propulsion, approved the re-constitution of the British Nuclear Energy Conference as the British Nuclear Energy Society, it being felt that the former had failed to establish itself as the only necessary forum for the discussion of nuclear engineering subjects. It was clear, however, from the constitution of the British Nuclear Energy Society that it might become an organization of greater service to the United Kingdom, taking an international view. Membership of the Society is open to all members of the Institute.

CONFERENCES

Two Conferences are being organized to take place in 1962, arrangements for both of which are well ahead. One is the International Conference of Marine Engineers which will be held from 7th-12th May. The other is a one-day Headmasters' Conference when papers outlining various aspects of marine engineering will be presented and discussed, the audience being in the first instance a selected group of Headmasters from the London area.

MEMORIAL BUILDING

Ladies' cloakroom accommodation for visitors has now been provided on the ground floor.

It has now been agreed that the ventilation of "The Ship and Compass" must be rectified. As this is a major operation, the actual work has been deferred until the Spring of 1962 at which time it will cause least inconvenience to the tenants.

STAFF BONUS SCHEME

In order to encourage members of the staff to remain with the Institute the Council has initiated a length of service award.

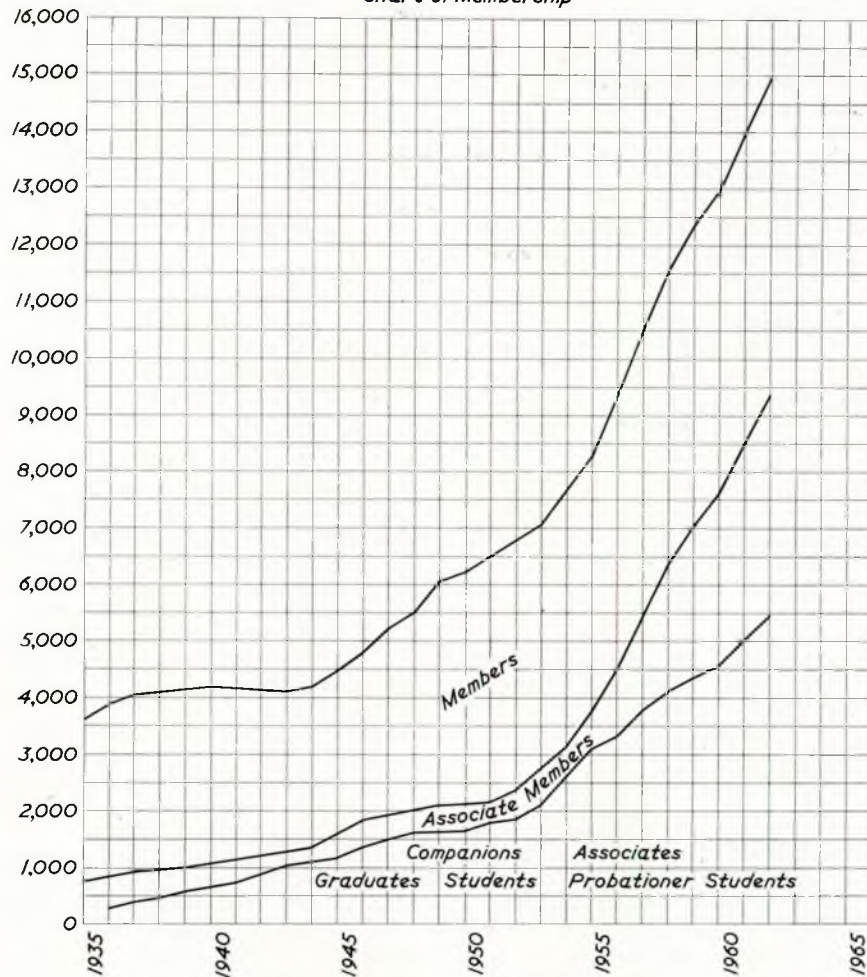
SUMMARY OF THE YEAR'S ACTIVITIES

The changes in the membership are shown in the following table and chart:

GRADE	Total 31st Dec. 1950	Transfer		Elected	Died	Resigned	Lapsed	Total 31st Dec. 1961	Increase or decrease during 1961
		From	To						
Past Presidents	14			1	2			13	— 1
Honorary Members	6							6	—
Members	5,524		84	199	67	49	40	5,651	+ 127
Associate Members	3,489	56	119	386	4	10	7	3,917	+ 428
Companions	46				3	1		42	— 4
Associates	1,610	42	2	111	7	18	47	1,609	— 1
Graduates	913	98	56	148		19	2	998	+ 85
Students	1,017	45	60	173		18	6	1,181	+ 164
Probationer Students	1,431	80		244	1	21		1,573	+ 142
Totals	14,050	321	321	1,262	84	136	102	14,990	+ 940

Annual Report of the Council for 1961

Chart of Membership



COUNCIL

At their meeting on 7th June 1961 the Council elected Mr. B. P. Ingamells, C.B.E., as Chairman of Council and Vice-Admiral Sir Frank Mason, K.C.B., as Vice-Chairman for the 1961/62 session.

HONORARY VICE-PRESIDENTS

During the year the following have been appointed Honorary Vice-Presidents by the Council:

J. Brydon
R. K. Craig, C.B.E.
W. Sampson
S. A. Smith, M.Sc.

VICE-PRESIDENTS

In July Rear-Admiral J. B. Caldwell, M.B.E., C.D., R.C.N., was co-opted to serve as Vice-President for Canada (*vice* Rear-Admiral B. R. Spencer, C.D., R.C.N., deceased).

Following the formation of the Indian Division Rear-Admiral T. B. Bose, B.Sc., I.N., was co-opted as the first Vice-President for India.

These two members have been nominated by the Council for election as Vice-Presidents for Canada and India respectively.

LOCAL VICE-PRESIDENTS

The following new Local Vice-Presidencies have been created during the year:

Belfast: D. H. Alexander, O.B.E., F.C.G.I., M.Sc., Wh.Sc.
Cochin: Cdr. V. S. P. Mudaliar, I.N.

Colombo: C. W. V. Ferdinands.

Halifax, Nova Scotia: G. Curphey.

Vancouver Island: Capt. E. Revfem, C.D., R.C.N.

B. Hill was appointed Local Vice-President, Calcutta, *vice* J. Connal, resigned.

CORRESPONDING MEMBERS

The following have been appointed Corresponding Members:

Buenos Aires: G. Thorpe-Smith, M.B.E. (*vice* S. Cromwell, deceased).
Madras: V. K. Desai (new appointment).
Rotterdam: A. Knape (*vice* P. F. Willemse, resigned).

PAPERS READ

Date	Title	Author
10th January	"The Future Doxford Marine Oil Engine"	P. Jackson, M.Sc. (Member of Council)
24th January	"Funnel Design and the Smoke Plume"	A. D. Third, B.Sc., Ph.D., and E. Ower, B.Sc., A.C.G.I.
14th February	"The Design and Layout of a 22,000 s.h.p. Tanker Machinery Installation"	J. B. Main (Member)
28th February	* "Lloyd's Register of Shipping Rules and Nuclear Ships"	J. M. Murray, M.B.E., B.Sc., and H. N. Pemberton

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

Annual Report of the Council for 1961

Date	Title	Author	Issue	Title	Author
14th March	"Materials for Advanced Steam Conditions and Their Influence on Operation of Marine Turbines and Boilers"	Cdr. H. E. C. Hims, O.B.E., R.N., and S. H. Frederick, A.Met., F.I.M.	June	"The Marine Engineer"—Education Group Discussion Presidential Address.	L. Jackson (Associate Member)
11th April	"Experience with Hardened and Ground Gearing in the Royal Canadian Navy"	D. K. Nicholson (Associate Member)	July	"The Future Doxford Marine Oil Engine"	The Right Honourable The Viscount Simon, C.M.G.
18th April	"Corrosion of Tin Base Babbitt Bearings in Marine Steam Turbines"	J. B. Bryce (Member) and T. G. Roehner	August	"Funnel Design and the Smoke Plume"	P. Jackson, M.Sc. (Member of Council)
25th April	Presidential Address.	The Right Honourable The Viscount Simon, C.M.G.	September	"The Design and Layout of a 22,000 s.h.p. Tanker Machinery Installation"	A. D. Third, B.Sc., Ph.D., and E. Ower, B.Sc., A.C.G.I.
3rd October	Presidential Address—"The Marine Engineer and the Common Life"	C. C. Pounder (Member)	October	"Materials for Advanced Steam Conditions and Their Influence on Operation of Marine Turbines and Boilers"	J. B. Main (Member)
10th October	"A Critical Survey of Marine Water Treatment Methods"	I. Raleigh	November	Presidential Address—"The Marine Engineer and the Common Life"	Cdr. H. E. C. Hims, O.B.E., R.N., and S. H. Frederick, A.Met., F.I.M.
24th October	"Electrostatic Charging during the White Oil Loading of Tankers"	M. P. Holdsworth, M.Eng. (Member), Dr. J. L. van der Minne and S. J. Vellenga	December	"Corrosion of Tin Base Babbitt Bearings in Marine Steam Turbines"	C. C. Pounder (Member)
14th November	"The Trials and Operation of the Gas Turbine Ship <i>Auris</i> "	R. M. Duggan, M.A. (Associate Member) and A. T. O. Howell (Associate Member)		"The Influence of Screw Forming Methods on the Fatigue Strength of Large Bolts"	J. B. Bryce (Member) and T. G. Roehner
28th November	* "High Temperature Reactors for Marine Propulsion"	J. E. Richards, B.Sc., Ph.D.			R. Cook, M.Sc. (Member) and W. McClimont, B.Sc. (Member)
12th December	"Land Practice in Modern Steam Plant"	F. Dransfield, B.Sc. (Eng.) and J. L. Gray, B.Sc.			
SYMPOSIUM ON WELDING IN SHIPBUILDING					
A Joint Symposium on Welding in Shipbuilding was held in The Memorial Building from 30th October-3rd November. The meeting was organized by the Institute of Welding in co-operation with the Institute of Marine Engineers, the Royal Institution of Naval Architects, the Institution of Engineers and Shipbuilders in Scotland and the North East Coast Institution of Engineers and Shipbuilders.					
PAPERS PUBLISHED IN THE SUPPLEMENT TO THE TRANSACTIONS					
January	§ "Generation of Power from Nuclear Energy and Its Application to Ship Propulsion", Part III. (Parts I and II being published in the November and December 1960 issues of the Supplement)		January	§ "Generation of Power from Nuclear Energy and Its Application to Ship Propulsion", Part III. (Parts I and II being published in the November and December 1960 issues of the Supplement)	S. K. Kashuri (Member)
March	"Some Factors in the Selection of Metals for Marine Engineering"		March	"Some Factors in the Selection of Metals for Marine Engineering"	D. Birchon, B.Sc. (Associate)
June	|| "An Approach to the Use of A.C. on Ships"		June	|| "An Approach to the Use of A.C. on Ships"	F. W. Evans (Associate) and J. H. B. Raw, B.Sc. (Associate Member)
July	§ "The Selection of Lubricants for Marine Machinery", Part I		July	§ "The Selection of Lubricants for Marine Machinery", Part I	N. J. D'Sylva (Associate Member)
August	"The Selection of Lubricants for Marine Machinery", Part II		August	"The Selection of Lubricants for Marine Machinery", Part II	N. J. D'Sylva (Associate Member)
PAPERS PUBLISHED IN THE CANADIAN DIVISION SUPPLEMENT					
March	"The St. Lawrence Seaway"		March	"The St. Lawrence Seaway"	R. J. Burnside, B.A.Sc., P.Eng.
June	"Shipping on the Great Lakes of America"		June	"Shipping on the Great Lakes of America"	A. E. Jordan (Member)
September	"Experience with Hardened and Ground Gearing in the Royal Canadian Navy"		September	"Experience with Hardened and Ground Gearing in the Royal Canadian Navy"	D. K. Nicholson (Associate Member)
December	"The Development of Heavy Duty Marine Diesels During the Past Five Years"		December	"The Development of Heavy Duty Marine Diesels During the Past Five Years"	W. Kilchenmann, Dip. Ing. (Member)
	"The <i>Great Eastern</i> "			"The <i>Great Eastern</i> "	R. G. Fuller, P.Eng.
	"Marine Boiler Tube Failures—Three Case Histories"			"Marine Boiler Tube Failures—Three Case Histories"	R. D. Barer, B.A.Sc., S.M.

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

‡ Read before a meeting of the Scottish Section of the Institute.

§ Read before a Joint Meeting of the Bombay Section of the Institute and the Institution of Marine Technologists.

|| Read before the Merseyside and North Western Section of the Institute.

Annual Report of the Council for 1961

JOURNAL OF THE JOINT PANEL ON NUCLEAR MARINE PROPULSION

Two issues of the Journal have been published and contained the following papers:

"Observations on the Design and Construction of the n.s. *Savannah*" by J. A. Dodd, B.Eng., and S. Macdonald, B.Sc.
"The International Conference on Safety of Life at Sea (1960)" by H. N. E. Whiteside.

"Lloyd's Register of Shipping Rules and Nuclear Ships" by J. M. Murray, M.B.E., B.Sc., and H. N. Pemberton.

The Journal also contained Nuclear Engineering Abstracts from the technical press.

STUDENT ACTIVITIES

The following events have taken place during the year:

16th January—Lecture on "The Marine Steam Reciprocating Engine" by G. Yellowley (Member).

6th February—Lecture on "The Marine Steam Turbine" by D. M. V. Parkinson, M.V.O. (Member).

15th February—Visit to t.s. *Ceramic*.

21st February—Visit to s.s. *Durban Castle*.

3rd March—Lloyd's Register Lecture for Students: "Looking Back on Nuclear Propulsion" by R. P. Williams (Associate Member), followed by a visit to the Atomic Energy Establishment at Winfrith Heath on the following day.

6th March—Panel meeting: "Watchkeeping and Maintenance in Steamships".

17th March—Social evening—film programme.

6th May—Visit to r.m.s. *Arlanza*.

2nd October—Technical film show and introductory talk by S. G. Christensen (Associate Member).

28th October—Visit to m.v. *City of Port Elizabeth*.

6th 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).

11th November—Visit to m.v. *Rothsay Castle*.

25th November—Visit to r.m.s. *Arlanza*.

4th December—Lecture on "Marine Diesel Engines" by E. W. Cranston, Wh.Sc. (Member).

9th December—Visit to m.v. *Rangitane*.

PAPERS AND ARTICLES PUBLISHED IN THE STUDENT TRANSACTIONS

Issue	Title
January	"Epicyclic Gears for Marine Propulsion" (reprinted from the Allen Engineering Review, July 1960).
February	"The Corrosion Behaviour of Non-ferrous Metals in Sea Water" by T. Howard Rogers, D.I.C., F.I.M., M.C.A.I. (Read before the Atlantic (Canada) Section of the Institute.)
March	"Marine Valve Design Developments" by Lt. Cdr. (E) J. Tinneveld, R.N.N. (Associate Member) and J. R. Peacock (Associate). (Read before the Scottish Section of the Institute.)
April	"Some Factors in the Selection of Metals for Marine Engineering" by D. Birchon, B.Sc. (Associate).
May	"The Evolution of the Design of Ships" by J. Turnbull, O.B.E. (Vice-President). "The St. Lawrence Seaway" by R. J. Burnside, B.A.Sc., P.Eng.
June	"Milestones of Progress" by S. Kasthuri (Member). (Read before the Bombay Section of the Institute.)
July	"An Approach to the Use of A.C. on Ships" by F. W. Evans (Associate) and J. H. B. Raw, B.Sc. (Associate Member). (Read before the Merseyside and North Western Section of the Institute.)
August and September	"The Future Doxford Marine Oil Engine" by P. Jackson, M.Sc. (Member of Council).
October	Presidential Address of the Right Honourable The Viscount Simon, C.M.G. "Boiler Water Treatment" by C. J. Hasler, B.Sc.
November	"Safety Aspects of Nuclear Propulsion of Merchant Ships" by D. R. Murray Smith, B.Sc., H. N. E. Whiteside (Member) and Captain A. C. Manson.

December "The Marine Engineer and the Common Life"—Presidential Address by C. C. Pounder (Member).

The Student Transactions also contained selected marine engineering abstracts.

JUNIOR LECTURES

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

1st February at Kingston Technical College. "Gas Turbines" by F. O. J. Otway, B.Sc.

21st February at Borough Polytechnic. "Boiler Water Treatment" by C. J. Hasler.

22nd February at Willesden Technical College. "The Layout and Operation of Marine Steam Turbine Machinery" by D. M. V. Parkinson, M.V.O. (Member).

20th March at Woolwich Polytechnic. "Automatic Boiler Control" by P. A. Gill.

5th October at Poplar Technical College. "Boiler Water Treatment" by C. J. Hasler.

7th November at East Ham Technical College. "The Construction of the Ship" by G. Ridley Watson, B.Sc. (Member).

7th November at Falmouth Technical College. "The Layout and Operation of Marine Steam Turbine Machinery" by D. M. V. Parkinson, M.V.O. (Member).

23rd November at Hendon Technical College. "Auxiliaries" by P. Scorer (Member).

EDUCATION GROUP

The Annual General Meeting of the Group was held on Tuesday, 21st March, and was followed by a discussion, introduced by L. Jackson (Associate Member) on "The Marine Engineer". This discussion was published in the June issue of the TRANSACTIONS.

INSTITUTE AWARDS

The Denny Gold Medal for 1961 has been awarded to P. Jackson, M.Sc. (Member of Council) for his paper entitled "The Future Doxford Marine Oil Engine" read before the Institute on 10th January 1961.

The Institute Silver Medal for 1961 has been awarded to J. M. Murray, M.B.E., B.Sc., and H. N. Pemberton (Member of Council) for their paper entitled "Lloyd's Register of Shipping Rules and Nuclear Ships" read before the Joint Panel on Nuclear Marine Propulsion on 28th February 1961.

The Akroyd Stuart Award for 1960/61, value £50, has been made to P. Jackson, M.Sc. (Member of Council) for his paper entitled "The Future Doxford Marine Oil Engine" read before the Institute on 10th January 1961.

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 1961 has been awarded, on the recommendation of the Chief Examiner of Engineers, to M. G. Kale (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. F. Tritschler (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 sea-going engineers has been won by M. A. Blackman (Student).

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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. A. Blakeman (first year) and J. H. Parry (second year), Birkenhead Technical College.
- D. Butterfield (first year) and M. J. Bullock (second year), Bolton Technical College.
- H. Q. Dickens (first year) and M. E. G. Hadlow (second year), Hendon Technical College.
- J. C. Reed (first year) and M. A. Ward (second year), Kingston upon Thames Technical College.
- C. J. Belton (first year) and N. R. Dalton (second year), Kingston upon Hull College of Technology.
- G. L. Morris (first year) and J. Ojeh (second year), Newport and Monmouthshire Technical College.
- A. Mottram (first year) and E. Bowes (second year), Plymouth and Devonport Technical College.
- N. D. Land (first year) and J. King (second year), Poplar Technical College.
- J. L. Hall (first year) and R. Mason (second year), Riversdale Technical College, Liverpool.
- D. E. Jennings (first year) and R. J. Smith (second year), South East London Technical College.
- T. D. Gibbs (first year) and E. P. Doidge-Harrison (second year), South Shields Marine and Technical College.
- J. Jelly (first year) and L. Bamforth (second year), Stow College of Engineering, Glasgow.
- R. W. Jenkins (first year) and C. H. Monday (second year), Swansea Technical College.
- E. J. Sample (first year) and N. O. Imo (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:

- E. O. Wilson, Barrow in Furness Central College of Further Education.
- D. Kearney, Belfast College of Technology.
- J. A. Mearns, Birkenhead Technical College.
- K. C. Roper, Bootle Municipal Technical College.
- A. R. W. Dick, Dundee Technical College.
- A. D. S. Timmins, Falmouth Technical College.
- E. C. Penge, Kingston upon Hull College of Technology.
- K. A. Long, Llandaff Technical College.
- C. P. Dodson, Plymouth and Devonport Technical College.
- C. S. Sinka, The Polytechnic, Regent Street, London, W.1.
- A. Comber, Poplar Technical College.
- J. H. Beastall, Riversdale Technical College, Liverpool.
- A. Y. Gall, Robert Gordon's Technical College, Aberdeen.
- D. C. Edward, Rutherford College of Technology.
- B. V. Day, Southampton Technical College.
- D. D. Rackley, South East London Technical College.
- B. Reay, South Shields Marine and Technical College.
- E. T. Ray, South West Essex Technical College and School of Art.
- A. Provan, Stow College of Engineering.
- J. C. Porter, Swansea Technical College.
- E. G. Hamilton, Watt Memorial College.
- D. J. Hope, West Ham College of Technology.
- D. Mitchell, West Hartlepool Technical College.
- L. Hudson, 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 M. B. H. Othman.

INSTITUTE EXAMINATIONS

Associate Membership Examination. Twenty-two candidates entered for the Part I examination and two passed. Six candidates entered for the Part II examination and three passed. Two candidates entered for and were successful in the Part III examination.

National Certificates and Diplomas in Mechanical Engineering. The following have been issued and signed by the President during 1961: Ordinary National Certificates, 725; Endorsements, 169; Higher National Certificates, 174; Endorsements, 31; Higher National Diplomas, 49; Ordinary National Diplomas—alternative entry for seagoing engineers, 212.

INSTITUTE PUBLICATIONS

Two of the Institute's publications, namely, "The Running and Maintenance of Marine Machinery" and "Naval Architecture and Ship Construction" have continued in steady demand throughout the year. The third, "Electricity Applied to Marine Engineering" is now out of print, but a new edition will be prepared.

INSTITUTE REPRESENTATION ON OUTSIDE ORGANIZATIONS

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

British Standards Institution

- ISE/62—Steels for Pressure Vessels—W. R. Harvey, O.B.E.
- MEE/158—Mechanical Balancing of Rotating Machinery—S. Archer, M.Sc.
- MEE/158/2—Mechanical Balancing of Rotating Machinery (Marine Applications)—S. Archer, M.Sc.

Riversdale Technical College, Board of Governors—T. Kameen.
Sunderland Technical College: Advisory Committee for Electrical Engineering, Mechanical and Marine Engineering, and Naval Architecture Departments—W. R. Jones.

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

British Standards Institution

- ELE/32/6—Radio Interference Suppression in Marine Installations—J. Hastie *vice* T. G. Boys, deceased.
- INE/6/2—Pressure Gauges (Drafting)—E. G. Hutchings, B.Sc., *vice* A. J. Mann, resigned.
- MEE/6/19—Gear Hobbing Machines—J. Rogerson *vice* Cdr. E. H. W. Platt, M.B.E., R.N., resigned.
- MEE/17/7—Gears for Turbines and Similar Drives—J. Rogerson *vice* Cdr. E. H. W. Platt, M.B.E., R.N., resigned.
- MEE/29—Pump Tests—C. Winyard *vice* J. E. M. Payne, resigned.

Portsmouth Technical College, Engineering Advisory Committee—G. M. Kennedy *vice* H. W. Hogben, M.B.E., B.Sc., resigned.

HONOURS

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

- W. K. G. Allen (Member)—Knight Bachelor.
- R. S. MacTier, C.B.E. (Companion)—Knight Bachelor.
- K. R. Pelly (Companion)—Knight Bachelor.
- C. F. Barnard (Member)—Commander of the Order of the British Empire.
- G. Burdon (Member)—Commander of the Order of the British Empire.
- E. Norton, B.E.M. (Member)—Commander of the Order of the British Empire.
- Capt. W. A. Stewart, O.B.E., R.N. (Member)—Commander of the Order of the British Empire.
- Cdr. J. Fenn Clark, R.N. (Member)—Officer of the Order of the British Empire.
- W. R. Harvey (Chairman of Council)—Officer of the Order of the British Empire.

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- F. E. Langer (Member)—Officer of the Order of the British Empire.
H. A. Adams (Member)—Member of the Order of the British Empire.
J. Orange, J.P. (Member)—Member of the Order of the British Empire.
Lt. Cdr. N. A. Pearse, R. Nigerian Navy (Member)—Member of the Order of the British Empire.
L. J. V. Reynolds (Member)—Member of the Order of the British Empire.

ROYAL GARDEN PARTY

The Chairman of Council, Mr. B. P. Ingamells, C.B.E., the immediate Past Chairman, Mr. W. R. Harvey, O.B.E., and the Secretary and their wives attended a Royal Garden Party on 6th July.

DEATHS

In addition to Sir William Currie (whose death is reported in the introductory paragraphs of the Report) the following who died during the year will be remembered particularly for their services to the Institute:

- Sir Westcott Abell, K.B.E., M.A. (Past President).
W. Johnstone, O.B.E. (Vice-President).
Rear-Admiral B. R. Spencer, C.D., R.C.N. (Vice-President).
S. Cromwell (Local Vice-President).
I. W. Jones Evans (Local Vice-President).
W. John, M.B.E. (Chairman, West of England Section).

ENGINEERING, MARINE, WELDING AND NUCLEAR ENGINEERING EXHIBITION

Members of Council paid an official visit to the Exhibition on Friday, 21st April, and were entertained to luncheon.

REMEMBRANCE DAY

The Chairman of Council, Mr. B. P. Ingamells, C.B.E., attended the Service in Westminster Abbey, and the Vice-Chairman of Council, Vice-Admiral Sir Frank Mason, K.C.B., laid a wreath on the Mercantile Marine War Memorial, Tower Hill, London, E.C.3, on Sunday, 12th November 1961.

STAFF

Upon his retirement in September the Council presented to W. D. Joseph a clock to mark his faithful service to the Institute.

SOCIAL EVENTS

The following social functions have been held:

- Annual Dinner, at Grosvenor House, London, W.1, on 10th March.
Spring Golf Meeting, at Moor Park Golf Club, on 17th May.
Autumn Golf Meeting, at the Berkshire Golf Club, on 27th September.
Annual Conversazioni, at Grosvenor House, London, W.1, on 1st and 15th December.

B. P. INGAMELLS (*Chairman of Council*)
J. STUART ROBINSON (*Secretary*)

THE INSTITUTE OF MARINE ENGINEERS

BALANCE SHEET

31st DECEMBER 1961

1960			
£	£	£	£
304,302	CAPITAL ACCOUNT (Note 1)	322,273	
390,000	LOAN CAPITAL (Note 2)	375,000	
CAPITAL RESERVE			
3,000	The Memorial Building Redemption Fund	4,000	
ACCUMULATED FUNDS			
83,921	General Revenue Account	85,761	
21,643	The Memorial Building Revenue Account	26,853	
105,564		112,614	
9,994	REVENUE RESERVES (Note 3)	16,663	
812,860		830,550	
3,859	SOCIAL EVENTS ACCOUNT (Note 4)	4,138	
AWARDS AND PRIZE FUNDS (Note 5)			
4,899	Capital	4,930	
684	Income	766	
5,583		5,696	
£822,302		£840,384	

1960					
£	£	£	£	£	£
		Cost	Depre- ciation		
FIXED ASSETS					
682,631	The Memorial Building (Note 6)	686,283	—	686,283	
12,761	Furniture and Fittings	19,620	6,855	12,765	
695,392		705,903	6,855	699,048	
INVESTMENTS					
73,785	Quoted Securities (Note 7)	93,244			
12,300	Less: Reserve for Depreciation	12,300			
61,485		80,944			
2,671	Freehold Property, Shenfield at cost				
	Sinking Fund Insurance Policies				
	(Note 8)				
64,156		80,944			
SOCIAL EVENTS ACCOUNT					
3,859	Cash at Bank			4,138	
AWARDS AND PRIZE FUNDS (Note 9)					
5,583				5,696	
76,155	CURRENT ASSETS (Note 10)	73,353			
22,843	Less: CURRENT LIABILITIES (Note 11)	22,795			
53,312		50,558			
£822,302		£840,384			

Annual Report of the Council for 1961

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, 1961 and of the income and expenditure for the year ended on that date.

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

27th February, 1962.

WEST AND DRAKE,
Chartered Accountants

GENERAL REVENUE ACCOUNT

YEAR ENDED 31st DECEMBER 1961

1960		£	£	£
	MEMBERSHIP EXPENDITURE			
7,563	Transactions (Note 13)		12,502	
—	Year Book (Note 3)		800	
	Journal of the Joint Panel on Nuclear Marine Propulsion		485	
426	<i>Canadian Division Expenses</i>		—	
1,472	Overseas Sections Expenses	742		
349	Local Sections Expenses	1,394		
1,158	Travelling to Sections	306		
199				
	Library Books and Periodicals		2,442	
630	Lecture Expenses	56	532	
156	Junior Lecture Expenses	59		
17			115	
	Examination Expenses			
	<i>Common Preliminary Examination</i>		—	
55	Associate Membership	16		
2			16	
64	Engrossing Certificates		44	
183	Prizes		142	
458	<i>Secretary's Canadian Visit</i>		—	
—	12,732	—	17,078	
	ESTABLISHMENT			
4,064	Housekeeping and Cleaning		4,017	
1,446	Fuel and Lighting		1,494	
144	Insurance		145	
1,000	Repairs Appropriation (Note 3)		1,000	
	Depreciation of Furniture and Fittings		1,418	
1,418				
—	8,072	—	8,074	
	ADMINISTRATION			
15,711	Salaries and Pensions		18,201	
2,822	Stationery and General Printing		2,942	
1,334	Postage and Telephone		1,562	
250	Maintenance of Equipment		240	
500	Audit Fee		500	
41	<i>Bad Debts</i>		—	
552	Sundries		543	
—	21,210	—	23,988	
	SURPLUS FOR THE YEAR			
	6,468 carried down		2,470	
—	£48,482	—	£51,610	
	<i>Provision for Depreciation of Investments</i>		—	
3,000	Additional Appropriations			
—	Year Book Expenses Reserve (Note 3)	800		
—	Institute Premises Repairs			
—	Equalisation Account (Note 3)	1,000	1,800	
	Balance at 31st December, 1961			
	83,921 carried forward		85,761	
—	£86,921	—	£87,561	

1960		£	£
	MEMBERSHIP INCOME		
1,613	Entrance Fees		1,544
42,362	Subscriptions (Note 12)		44,577
—	43,975	—	46,121
	INVESTMENT INCOME		
3,283	<i>Less: Credited to Awards...</i>		4,526
153			154
—	3,130	—	4,372
	NET RENT RECEIVABLE		
98	Freehold Property, Shenfield		50
—	Hire of Hall and Council Room		156
—	98	—	206
	INSURANCE COMMISSION		155
	PROFIT ON SALES OF PUBLICATIONS		
	“Running and Maintenance of Marine Machinery”		257
262	“Electricity Applied to Marine Engineering”		167
250	“Naval Architecture and Ship Construction”		252
324	Reprints of Papers, etc.		80
289			
—	1,125	—	756
—	£48,482	—	£51,610
	Balance at 31st December, 1960 brought forward		83,921
80,173	Surplus for the year brought down		2,470
6,468	Life Subscriptions received during year		349
280	Life Assurance premiums recoverable		189
—	Profit on Redemption of Dominion Stock		9
—	Profit on Sale of Freehold Property—		
—	Shenfield		623
—	£86,921	—	£87,561

THE MEMORIAL BUILDING REVENUE ACCOUNT
YEAR ENDED 31st DECEMBER 1961

1960	£	£	£	£
STANDING CHARGES				
10,000			10,000	
7,024			7,119	
535			528	
1,547			1,611	
	19,106		19,258	
ADMINISTRATION AND SERVICES				
5,352			5,934	
1,897			1,893	
1,889			1,932	
3,000			3,000	
2,874			2,863	
—			310	
613			539	
	15,625		16,471	
21,875			21,037	
28,087			30,210	
	£84,693		£86,976	

Appropriations				
15,000			15,000	
1,000			1,000	
3,000			4,000	
—			5,000	
	19,000		25,000	
21,643			26,853	
	£40,643		£51,853	

1960	£	£	£	£
RENTS RECEIVABLE				
76,648			76,654	
6,976			9,328	
	83,624		85,982	
SERVICE CHARGES				
GARAGE				
1,635			1,627	
			287	
			138	
			186	
			22	
566			633	
	1,069		994	
	£84,693		£86,976	

12,556			21,643	
28,087			30,210	
	£40,643		£51,853	

Annual Report of the Council for 1961

NOTES ON ACCOUNTS

	£	£
1. Capital Account		
Balance at 31st December, 1960 ...	304,302	
Donations received during 1961 ...	2,971	
Appropriation from Memorial Building Revenue Account ...	15,000	
		£322,273
2. Loan Capital		
The Church Commissioners		
Mortgage at 5½% per annum ...	312,500	
Mortgage at 6% per annum ...	62,500	
		£375,000

Secured on the Memorial Building and repayable by annual instalments of £15,000.

3. Revenue Reserves

	Balance 31.12.60	Appropriations		Expenditure during year	Balance 31.12.61
		Revenue Accounts General	Memorial Building		
	£	£	£	£	£
Staff Fund	3,366	—	—	—	3,366
Institute Premises Repairs Equalisation Account	543	(a) 1,000 (b) 1,000	—	809	1,734
Building Repairs Equalisation Account ...	2,689	—	3,000	2,311	3,378
Conference Expenses	3,396	—	4,000	93	7,303
Year Book Expenses		(a) 800 (b) 800	—	1,548	52
Development Fund		—	5,000	(c) 4,170	830
	<u>£9,994</u>	<u>£3,600</u>	<u>£12,000</u>	<u>£8,931</u>	<u>£16,663</u>

Notes

- (a) Charged against Current year's revenue
 (b) Appropriated from Balance at 31st December, 1960
 (c) Canadian Division Expenses 1,585
 Secretary and Chairman of Council's Visit to India,
 Pakistan and Ceylon 932
 Secretary's Visit to America and Canada... .. 658
 Secretary's Visit to India and Pakistan 995
- 2,585
£4,170

4. Social Events Account

Balance at 31st December, 1960	£	£
		3,859
Add: Profits		
Dinner	292	
Conversaciones	11	
	<u>303</u>	
		4,162
Less: Losses		
Summer Golf Meeting	10	
Autumn Golf Meeting	14	
	<u>24</u>	
Balance at 31st December, 1961		<u>£4,138</u>

5. Awards and Prize Funds

	<i>Capital Accounts</i>	<i>Income Account for 1961</i>			<i>Balance 31.12.61</i>
		<i>Balance 31.12.60</i>	<i>Income</i>	<i>Awards</i>	
General	£	£	£	£	£
Akroyd Stuart Award	700	262	32	—	294
W. W. Marriner Prize	230	13	7	5	15
Adam Girdwood Award	15	7	—	—	7
Denny Gold Medal	250	99	10	6	103
Denny Award... ..	100	56	12	—	68
Stephen Legacy	100				
Lord Inverforth Award	100	109	12	—	121
John I. Jacobs Award	119				
W. Murdoch Legacy	62				
D. F. Robertson Award	100	—	7	7	—
Frank Roberts Award	154				
Administered as Trustees					
William Theodore Barker Award	3,000	138	120	100	158
	£4,930	£684	£200	£118	£766

6. The Memorial Building

	<i>To 31.12.60</i>	<i>Year to date</i>	<i>Total to 31.12.61</i>
	£	£	£
Cost of Construction to date			
Foundations and Frame	70,709	—	70,709
Building and Equipment	609,350	—	609,350
Sundry Building Costs	1,243	3,652	4,895
Architect's Fees	42,521	—	42,521
Surveyors and Agents Fees	10,717	—	10,717
Solicitors Fees and Stamp Duty	6,966	—	6,966
	<u>741,506</u>	<u>3,652</u>	<u>745,158</u>
<i>Less: Compensations and Tenants Contributions</i>	58,875	—	58,875
	£682,631	£3,652	£686,283

Note: A liability of approximately £5,000 exists to improve the ventilation for a tenant and to provide for the balance of the cost of additional cloakroom accommodation.

7. Investments

Quoted Securities at Cost

Government Securities

	£	£
£2,834 3% Savings Bonds 1955/65	2,817	
£9,000 3% Savings Bonds 1960/70	9,000	
£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	
£13,200 3½% War Loan	12,636	
		<u>46,232</u>

Banks

1,200 Lloyds Bank Ltd. £1 Ordinary Shares	3,415
--	-------

Breweries			
1,800 J. & R. Tennent Ltd. 5/- Ordinary Stock Units	...	...	3,350
Commercial and Industrial			
1,500 Beecham Group Ltd. 5/- Ordinary Shares	...	...	3,267
£1,427 Bowater Paper Corporation Ltd. Ordinary Stock	...	...	3,910
1,500 Gallaher Ltd. 10/- Ordinary Stock Units	...	...	2,766
£700 Guest Keen & Nettlefolds Ltd. Ordinary Stock	...	...	3,267
£1,050 Imperial Chemical Industries Ltd. Ordinary Stock	...	...	2,976
4,000 News of the World Ltd. 5/- non-voting Ordinary Shares...	...	...	2,892
750 Reckitt & Colman Holdings Ltd., £1 Ordinary Shares	...	...	3,210
			<hr/>
			22,288
Insurance			
700 Northern & Employers Insurance Co. Ltd. £1 Ordinary Shares	...	...	3,571
1,500 Guardian Assurance Co. Ltd. 5/- Ordinary Shares	...	...	3,305
			<hr/>
			6,876
Iron, Coal and Steel			
750 Colvilles Ltd. £1 Ordinary Shares	...	...	3,040
Dollar Securities			
125 Johns Manville Corporation \$5 Common Shares	...	...	2,664
100 F. W. Woolworth \$10 Common Shares	...	...	2,477
100 U.S. Steel Corporation \$16 2/3 Common Shares	...	...	2,902
			<hr/>
			8,043
			<hr/>
			£93,244

(Market Value at 31st December, 1961 £83,446)

8. Sinking Fund Insurance Policies

Single Premiums to

Assurance Company	Date of Maturity		Payment Secured	
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
				<hr/>
				£23,000

(The present surrender value of the above policies is £4,396)

9. Awards and Prize Funds

Investments	£	£
Akroyd Stuart Award		
£915 3½% Conversion Loan at Cost	...	698
John I. Jacobs Award		
£200 2½% Consolidated Stock as valued at 31st January, 1919	...	119
Lord Inverforth Award		
£100 3½% War Loan at par	...	100
W. W. Marriner Prize		
£166 3% Savings Bonds 1955/65 at cost	...	166
		<hr/>
		1,083
Cash on Deposit with Bank	...	4,613
		<hr/>
		£5,696

10. Current Assets		£	£
Stocks on hand			7,097
Sundry Debtors and Prepayments less provision for Doubtful Debts			13,464
Amounts due from Tenants			
Rents and Service Charges			19,360
Loan to Local Authority			20,000
Cash and Bank Balances			13,432
			<u>£73,353</u>
11. Current Liabilities			
Sundry Creditors			11,044
Mortgage Interest			7,973
Income Tax Payable		6,962	
Less: Income Tax Recoverable		4,730	
			<u>2,232</u>
Unexpired Subscriptions (Note 12)			1,546
			<u>£22,795</u>
12. Subscriptions			
1960		Received	Unexpired
£		£	£
21,123 Members		22,012	613
11,420 Associate Members		13,553	505
5,573 Associates		5,775	133
2,658 Graduates		2,898	138
962 Students		1,251	65
506 Probationer Students		509	73
120 Companions		125	19
		<u>£46,123</u>	<u>£1,546</u>
<u>£42,362</u>			<u>£44,577</u>
13. Transactions			
1960		£	£
£		£	£
22,340 Composition, Printing, Paper, etc.			22,356
2,928 Reporting, Abstracting and Salaries			4,685
6,626 Wrapping and Postage			7,247
	31,894		<u>34,288</u>
23,864 Less: Advertising Revenue			22,136
2,596 Sales			2,918
39 Profit on Bound Volumes			52
	<u>26,499</u>		<u>25,106</u>
	5,395		
815 Canadian Supplement			2,418
Less: Advertising Revenue		539	
Sales		26	
	108		<u>565</u>
	707		1,853
1,574 Student Transactions			1,594
113 Less: Sales			127
	<u>1,461</u>		<u>1,467</u>
<u>£7,563</u>			<u>£12,502</u>

Annual Reports of the Sections

HOME

DEVON AND CORNWALL

Since its inception in June 1960 the membership of the Section has grown considerably and to date stands as follows:

	<i>Registered</i>	<i>Non-registered</i>
Members	63	39
Associate Members ...	29	30
Companions	—	1
Associates	10	14
Graduates	5	15
Students	23	20
Probationer Students	6	20
	136	139

The attendance at the early meetings was encouraging and in view of this it was decided to embark upon a more ambitious programme for 1961-62. The following lectures were presented:

- 24th January Annual General Meeting followed by "Marine Steam Boilers" by Lt. Cdr. A. P. Monk, D.S.C., R.N. (Member).
- * 7th March "The Future Doxford Marine Oil Engine" by P. Jackson, M.Sc. (Member of Council).
- † 10th October (Plymouth) "Marine Refrigeration Machinery" by Lt. Cdr. M. B. F. Ranken, R.N. (Member).
- † 7th November (Falmouth) "The Layout and Operation of Marine Steam Turbine Machinery" by D. M. V. Parkinson, M.V.O. (Member).
- ‡ 28th November (Plymouth) "The Automatic Control of Naval Boilers" by Cdr. J. P. H. Brown, R.N. (Member) and Lt. Cdr. W. J. R. Thomas, R.N.

Support for the lectures has been very gratifying except for one or two disappointing occasions. Numbers have been between fifty and sixty and on one occasion considerably more. It is worthy of note that a number of visitors, apart from members, take an interest in the meetings.

W. E. B. Dainton (*Chairman*)
A. H. Morton (*Honorary Secretary*)

Annual General Meeting

The Annual General Meeting was held on 6th February 1962 at the Duke of Cornwall Hotel, Plymouth, at 7.15 p.m. The Honorary Secretary's annual report and the Honorary Treasurer's financial statement were read and approved and a vote of thanks for the work of those concerned was proposed by Commander Farrell.

The retiring members of the Committee, Lieut. R. W. Blatchford, M.B.E., R.N., Cdr. D. G. Satow, R.N. and Eng. Cdr. F. E. Yeates, R.N. were replaced by Cdr. J. Frederick, R.N., Instr. Lt. Cdr. H. E. Morgan, R.N. and Mr. S. Walker.

Mr. W. E. B. Dainton was invited by the new Committee to continue in the Chair. The Committee for 1962 is as follows:

Chairman: W. E. B. Dainton
Vice-Chairman: R. E. Pritchard

Committee: Lt. Cdr. C. H. E. Brewster, R.N.
N. K. Croft
Cdr. J. Frederick, R.N.
M. J. Gilbert
Instr. Lt. Cdr. H. E. Morgan, B.Sc. (Eng.), R.N.
S. Walker
Honorary Secretary: A. H. Morton
Honorary Treasurer: Cdr. R. T. Jones, O.B.E, D.S.C., R.N.

The meeting was followed by an informal discussion on the Training of Marine Engineers and the Problems of Manning Engine Rooms. The subject was introduced by the Honorary Secretary and owing to its controversial nature and the varied opinions of those present, the exchanges were lively and instructive; it was agreed that the matter should be re-opened at a later date.

* Published in the July 1961 issue of TRANSACTIONS.
† Junior Lecture.
‡ Published in the April 1961 issue of TRANSACTIONS.

KINGSTON UPON HULL AND HUMBER AREA

The year 1961 has been one in which progress has been made in all Section activities. Membership has increased by five per cent and the total membership now stands at 343. New members have continued to register with the Section and thus the registered membership has shown the greatest increase. The membership is as follows:

	<i>Registered</i>	<i>Non-registered</i>
Members	77	26
Associate Members ...	75	31
Associates	24	8
Graduates	18	11
Students	16	14
Probationer Students	25	18
	235	108

- During 1961 seven lectures were held as follows:
- * 19th January "The Future Doxford Marine Oil Engine" by P. Jackson, M.Sc. (Member of Council), read by Mr. E. Taylor.
- 16th February "Interesting Investigations" by J. H. Milton (Member).
- † 23rd February "Marine Lubrication" by G. H. Clark (Member), read by Mr. C. A. Gaskin (Associate Member).
- ‡ 23rd March "Details and Operating Data of Recent A.C. Installations" by A. N. Savage (Member).
- 5th October "Marine Diesel Engine Bearings—Materials and Design" by P. T. Holligan, B.Sc.(Tech.) and R. W. Joy, B.Sc.(Eng.).
- 16th November "Marine Salvage" by Captain A. Lynas.
- 14th December "Looking Back on Nuclear Propulsion" by R. P. Williams, B.Eng. (Associate Member).

The standard of lectures during the year has been high and attendance has shown a substantial increase over the previous year. It appears that the subject of the lecture is of vital

Annual Report of the Council for 1961

importance and the trend is to support lectures of a more practical nature. The average attendance at senior lectures was 62, consisting of 40 members and 22 non-members. Attendance at the junior lecture was 50.

The Eleventh Annual Dinner of the Section was held on Friday, 3rd November, at the Guildhall, Kingston upon Hull and was attended by 208 members and guests, a record number.

The President, Mr. C. C. Pounder, honoured the occasion with his presence and his excellent speech added much to a highly successful evening. Also present was the Lord Mayor of Kingston upon Hull, Alderman K. Turner, J.P., supported by many leading figures of the marine engineering and shipping worlds.

Bryan Taylor (*Chairman*)
D. A. Taylor (*Honorary Secretary*)

Annual General Meeting

The Annual General Meeting of the Section was held at the Royal Station Hotel, Kingston upon Hull, on Thursday, 25th January 1962 at 7.30 p.m., under the Chairmanship of Mr. F. C. M. Heath (Vice-President).

The annual reports were read and approved.

In his report the Chairman asked the members present to join him in congratulating the Honorary Treasurer and Honorary Secretary for their reports. He was pleased to see the steady increase in membership and pointed out the advantages of registration with a local section.

The Chairman was questioned regarding the position of Vice-President associated with the Section. Mr. Heath explained that under the new redistribution of the Vice-Presidents, the Section had lost the Vice-Presidency with which it had been so long associated, but that he has been appointed as Local Vice-President. This provoked a great deal of discussion and those members present unanimously expressed disapproval of the new arrangements, particularly of the high proportion of the Vice-Presidents based on the London area. It was decided to bring the matter to the notice of the Council in due course.

Messrs. A. C. Coward, M.B.E., and D. Vincent were elected to fill the two vacancies on the Committee for which there were five nominations.

In the Committee Meeting which followed, Mr. Bryan Taylor, B.Sc.(Eng.) was re-elected to the office of Chairman and Mr. G. A. Skelton, M.B.E. was elected to the office of Vice-Chairman.

The newly constituted Committee is as follows:

Vice-President: F. C. M. Heath
Chairman: Bryan Taylor, B.Sc.(Eng.)
Vice-Chairman: G. A. Skelton, M.B.E.
Committee: A. C. Coward, M.B.E.
P. F. Dilnot
P. H. V. Evers
H. F. Hesketh
W. Holcroft
R. Rawlings (co-opted)
J. R. Rea
R. R. Triggs
D. Vincent
A. E. Walker

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

* Published in the July 1961 issue of TRANSACTIONS.

† Junior lecture.

‡ Published in the May 1961 issue of TRANSACTIONS.

MERSEYSIDE AND NORTH WESTERN

Interest in the Section is being maintained and membership figures show an encouraging increase when compared with last year; of the increase it is pleasing to report that some 60 per cent of it is in the membership of Students or Probationer Students.

The membership is as follows:

	Registered	Non-registered
Members	306	168
Associate Members ...	179	194
Companions	1	—
Associates	67	51
Graduates	31	62
Students	79	139
Probationer Students	124	257
	787	871

Senior meetings were held in the rooms of The Liverpool Engineering Society, The Temple, Dale Street, Liverpool, 2, as follows:

- 9th January "Water Treatment for High Pressure Marine Boilers" by T. V. Arden, Ph.D., F.R.I.C., and F. C. Blight.
- * 6th February Annual General Meeting, followed by "Details and Operating Data of Recent A.C. Installations" by A. N. Savage (Member).
- † 6th March "General Developments in Ceramics for Marine Engineering" by F. H. Aldred, B.A. and N. W. Hinchliffe, B.Sc.
- ‡ 10th April "Materials for Advanced Steam Conditions and their Influence on Operation of Marine Turbines and Boilers" by Cdr. H. E. C. Hims, O.B.E., R.N., and S. H. Frederick, A.Met., F.I.M.
- 2nd October "The Chemical Cleaning of Ships' Machinery" by H. R. Hamburg, Ph.D., and P. F. Dilnot (Member).
- § 6th November "Observations on the Design and Construction of n.s. *Savannah*" by J. A. Dodd, B.Eng. (Associate Member) and S. Macdonald, B.Sc.

In co-operation with, and by kind invitation of, The Liverpool Engineering Society, members also attended the following lectures:

- 8th February "Thomas Lowe Gray" lecture—"The Early Development of The Dracone Flexible Barge" by W. R. Hawthorne, C.B.E., Sc.D., F.R.S.
- 15th March Paper on "Shipbuilding" by G. C. Fletcher, M.I.Mech.E., M.R.I.N.A.
- This year two meetings were held in Manchester, viz:
- 16th January "Safety at Sea" by Stewart Hogg, O.B.E. (Member).
- 13th February "The Future Doxford Marine Oil Engine" by P. Jackson, M.Sc. (Member of Council), read by Mr. E. Taylor.

Junior lectures were held as under:

- 27th January (Barrow) "Oil Fuel Burning" by A. H. Skinner.
- 8th February (Riversdale) "Launching of Ships" by R. S. Hogg (Member).
- 15th February (Birkenhead) "Watch-keeping in a Motor Ship" by S. Speed (Member).
- 23rd March (Bolton) "Metallurgy in Marine Engineering" by J. E. Garside, M.Sc., Ph.D.
- 24th October (Bolton) "Boiler Water Treatment" by a representative of I.C.I. Ltd.
- 22nd November (Birkenhead) "Launching of Ships" by R. S. Hogg (Member).
- || 23rd November (Barrow) "The Closed Feed System" by T. O. Leith (Associate Member).
- 6th December (Riversdale) "Metallurgy in Marine Engineering" by J. E. Garside, M.Sc., Ph.D.

Although attendances at Senior Lectures have been quite encouraging, they do show a slight decrease over previous years, and it is hoped that members will try and give more support to local lectures in future.

In connexion with Junior Lectures which, in the main, are given to apprentice marine engineers, considerable encouragement would be given to the College Staffs, Apprentices and the Lecturers if Senior Members would try to attend.

Annual Report of the Council for 1961

Mr. Maurice Bullock of Bolton Technical College, Mr. J. H. Parry of Birkenhead Technical College and Mr. Ralph Mason of Riversdale Technical College were nominated for the Lloyd's Register of Shipping Award for Students. After special arrangements with Headquarters in London, all three were accepted for the Award, which took the form of a visit to Lloyd's Register of Shipping followed by a lecture on "Nuclear Propulsion" and a dinner at a London hotel; on the second day they visited the Atomic Energy Establishment at Winfrith Heath, Dorset.

The Dinner Dance was again held in the Banqueting Hall of the Adelphi Hotel, on Friday, 3rd November, when the Section was honoured by the presence of the Chairman of Council, Mr. B. P. Ingamells, C.B.E., and Mrs. Ingamells, together with the Principals of the Bolton, Riversdale and Birkenhead Technical Colleges, with their ladies. The event was well supported by members and their guests, some 340 being present.

L. Deakin (*Chairman*)
T. Kameen (*Honorary Secretary*)

Annual General Meeting

The Annual General Meeting of the Section was held on Monday, 5th February 1962, in the rooms of the Liverpool Engineering Society, The Temple, 24 Dale Street, Liverpool, 2, at 6.0 p.m.

The annual report and the financial statements were read and approved.

As a result of a ballot Messrs G. Clark, T. E. Jones and J. A. Smith were elected to serve on the Committee in place of the retiring members Messrs. A. D. Bridgwater, L. Deakin and J. Farnie. The scrutineers were Messrs. Meade and Owen.

There being no nominations for the offices of Honorary Secretary and Treasurer, Messrs. T. Kameen and J. E. Shields respectively were duly elected.

After a brief survey of the year's activities the Chairman Mr. L. Deakin informed the meeting that the Committee had unanimously agreed to elect Captain W. S. C. Jenks, O.B.E., R.N. as Chairman for 1962/63. Captain Jenks then took the Chair and paid tribute to Mr. Deakin for the way in which he had handled the affairs of the Section during his term of office.

The constitution of the Committee for 1962 is as follows:

Vice-President, Liverpool: T. McLaren, B.Sc.
Chairman: Captain W. S. C. Jenks, O.B.E., R.N.
Vice-Chairman: W. H. Falconer
Committee: J. Bowman
R. F. Capey (Member of Council)
G. Clark
L. Deakin (co-opted 1962/63)
T. E. Jones
G. Keenan (Associate Member of Council)
G. Kenworthy-Neale (co-opted 1962/63)
W. M. Maguire
J. Rogerson
T. C. Shaw (co-opted 1962/63)
J. A. Smith
J. L. Snowdon
Honorary Secretary: T. Kameen
Honorary Treasurer: J. E. Shields

* Published in the May 1961 issue of TRANSACTIONS.

† Published in the March 1961 issue of TRANSACTIONS.

‡ Published in the October 1961 issue of TRANSACTIONS.

§ Published in the April 1961 issue of the Journal of the Joint Panel on Nuclear Marine Propulsion.

¶ Joint Senior and Junior Lecture.

NORTH EAST COAST

The number of members registered with the North East Coast Section is as follows:

	Registered	Non-registered
Members	306	70
Associate Members ...	281	66

Companions	1	3
Associates	46	18
Graduates	64	24
Students	72	14
Probationer Students	56	26
	829	221

The following meetings were held:

- * 26th January (Newcastle) "The Future Doxford Marine Oil Engine" by P. Jackson, M.Sc. (Member of Council).
- † 16th February (Newcastle) Annual General Meeting. "Details and Operating Data of Recent A.C. Installations" by A. N. Savage (Member).
- ‡ 28th March (Newcastle) "Materials for Advanced Steam Conditions and Their Influence on Operation of Marine Turbines and Boilers" by Cdr. H. E. C. Hims, O.B.E., R.N. and S. H. Frederick, A.Met., F.I.M.
- § 12th October (Newcastle) "The Design and Layout of a 22,000 s.h.p. Tanker Machinery Installation" by J. B. Main (Member).
- 2nd November (Newcastle) "Pollution of the Sea by Oil" by E. Douglas, B.Sc. and I. G. Elliott.
- 16th November (Sunderland) "The Layout and Operation of Marine Steam Turbine Machinery" by D. M. V. Parkinson, M.V.O. (Member).
- ¶ 14th December (Newcastle) "Trials and Operation of the Gas Turbine Ship *Auris*" by R. M. Duggan, M.A. (Associate Member) and A. T. O. Howell (Associate Member).

The improvement in average attendance which was reported last year is again maintained this year and it is hoped that this trend will be continued.

The official opening of Turbinia Hall which now houses the restored *Turbinia*, the world's first turbine driven ship, was performed by the First Sea Lord, Admiral Sir Caspar John, G.C.B., at Newcastle upon Tyne on 15th September. The Chairman of the Town Moor and Parks Committee, Alderman J. C. D. McKenzie, B.E., J.P. and the President of the North East Coast Institution of Engineers and Shipbuilders, Mr. J. B. Woodeson, C.B.E. extended an invitation to the Institute, which has subscribed to the cost, to attend the event presided over by the Lord Mayor, Dr. H. Russell.

The ceremony was an irapressive tribute to the memory of Sir Charles Parsons and it is reported that the *Turbinia* is suitably preserved and displayed in the Museum of Science and Engineering on the Town Moor.

The Section was represented by Mr. P. Jackson, M.Sc. (Member of Council), Professor G. H. Chambers, D.S.C. (Member) and Mr. A. J. S. Bennett, M.B.E. (Honorary Secretary).

The Committee wish to express their appreciation to the Chairman Mr. S. H. Dunlop, who, despite having to travel from West Hartlepool for every meeting, has, for two years given the Section his constant guidance; to the lecturers and speakers who have contributed to the programme and to the Honorary Secretary and Honorary Treasurer for their work and interest during the year; also to Mr. A. W. Jones who, as Honorary Secretary was in office from the founding of the Section until the beginning of the present session.

Registration with the Section ensures personal notification of all local activities without liability or additional cost. Any unregistered members who wish to join the Section should notify the local Honorary Secretary at the Marine and Technical College, South Shields.

Annual General Meeting

The Annual General Meeting was held on Thursday, 18th January 1962, at Stephenson Building, Newcastle upon Tyne, at 6.15 p.m.

The annual report and the financial report were read and approved.

Annual Report of the Council for 1961

The five nominations needed to bring the membership of the Committee up to full strength were received and as only the present holders of the offices of Honorary Secretary and Honorary Treasurer were nominated, a ballot was therefore unnecessary.

The new Committee members are Messrs. W. Francis, A. W. Jones, B.Sc., E. Lea, C. R. Rowcliffe and C. Wappett. Messrs. P. Henry and A. B. Ives retire.

The new Committee is as follows:

Local Vice-President, Newcastle upon Tyne: E. C. Cowper

Local Vice-President, Middlesbrough: E. T. Middle-ditch

Chairman: S. H. Dunlop (Local Vice-President, Hartlepool)

Committee: A. W. Bell

Prof. G. H. Chambers, D.S.C.

J. E. Church (Member of Council)

J. W. Corney

W. Embleton

W. Francis

J. G. Gunn, B.Sc. (Corresponding Member, Sunderland)

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

A. W. Jones, B.Sc.

W. R. Jones

E. Lea

T. D. Morton

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

C. R. Rowcliffe

G. H. Turner

R. Walker

C. Wappett

G. Yellowley

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

Honorary Treasurer: R. McDonald, B.Sc.

After the meeting a paper entitled "Residual Thermal Stresses in Compression Ignition Engines" by A. Dearden, was presented by the author who dealt ably with points raised in the discussion which followed.

* Published in the July 1961 issue of TRANSACTIONS.

† Published in the May 1961 issue of TRANSACTIONS.

‡ Published in the October 1961 issue of TRANSACTIONS.

§ Published in the September 1961 issue of TRANSACTIONS.

|| To be published in the April 1962 issue of TRANSACTIONS.

NORTH MIDLANDS

The Section was formed in June 1960 and has thus, just ended its first complete year.

It is pleasing to report an increase in both registered membership and in the activities of the Section.

Membership figures are as follows:

	<i>Registered</i>	<i>Non-registered</i>
Members	76	30
Associate Members ...	50	37
Companions	1	—
Associates	18	13
Graduates	11	10
Students	10	16
Probationer Students	11	25
	177	131

The following papers were given to the Section during 1961:

22nd February (Sheffield) "Oil Fuel Burning" by A. H. Skinner.

19th April (Derby) "Distillation for Marine Purposes" by Capt. W. R. Stewart, R.N. (Member).

1st June (Sheffield) "The Need for Research in Diesel Engine Development" by R. V. Hughes, B.Sc., Ph.D.

25th October (Sheffield) "Heatless Repairs to Fractured or Broken Castings" by N. Tinwell.

5th December (Leeds) "Interesting Investigations" by J. H. Milton (Member of Council).

On Tuesday, 14th November, the Section visited the works of Ambrose Shardlow Ltd., at the invitation of the Chairman of the Section, Mr. J. C. Proudfoot and spent an interesting evening following the processes of manufacture of Diesel and motor engine crankshafts. The evening concluded with an informal buffet.

The Section has been indebted on two occasions to Mr. H. F. Sherborne, M.C., M.A.(Oxon) (Member), Managing Director of Yorkshire Imperial Metals Ltd., for the use of the works lecture hall, also for his ensuing hospitality.

J. C. Proudfoot (*Chairman*)

F. H. Soppitt (*Honorary Secretary*)

Annual General Meeting

The second Annual General Meeting of the Section was held on Wednesday, 31st January 1962 at the British Iron and Steel Research Association Building, Hoyle Street, Sheffield. Mr. J. C. Proudfoot (Chairman of the Section) was in the Chair and twenty-seven members attended.

The annual report and financial statement were presented and approved.

The Chairman thanked the Committee for the help given to him during his term of office and referred to the increasing interest of members in Section meetings.

The following three members were added to the Committee, Messrs. J. W. Batey, V. Wales and G. K. Riley.

The Committee is now constituted as follows:

Chairman: J. C. Proudfoot

Vice-Chairman: H. V. Campbell

Committee: J. W. Batey

A. M. Jarvis, B.Sc.

F. P. Jewitt

A. S. Lawrie

C. W. Parris

H. C. Rivers

G. K. Riley

W. S. Taylor

V. Wales

Honorary Secretary: F. H. Soppitt

Honorary Treasurer: Y. Arakie

The meeting was followed by a paper by G. H. Clark (Member) entitled "Marine Lubrication" illustrated by lantern slides. A lively discussion followed and conveyed the interest that the paper had provoked.

SCOTTISH

The total membership of this Section is now 1,216, consisting of 864 registered members and 352 non-registered members.

It was with great regret that the Section recorded the death, on 20th August 1961, of Mr. W. B. Johnstone, O.B.E., Vice-President, who gave the Section every support and encouragement since its inception in 1953.

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

The seventh Annual Dinner was held on 17th February, and the fifth Dinner and Dance on 9th December. Both these functions were very successful.

The following papers were presented during 1961:

* 11th January (Glasgow) "Modern Oils in Marine Service" by D. Lyon (Associate Member) and J. S. Nell (Member).

8th February (Glasgow) "Boiling Water Reactors for Ship Propulsion" by J. Dowie, B.Sc.

† 24th February (Aberdeen) "Apprenticeship and M.O.T. Examination Requirements for Junior Marine Engineers" by C. A. Creber (Associate Member).

11th October (Glasgow) "Safety at Sea" by J. W. Bull (Member).

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- 25th October (Glasgow) "Elementary Nuclear Engineering" by H. F. Close, B.Sc. (Associate Member).
‡ 8th November (Glasgow) "The Development of Heavy Duty Marine Diesels During the Past Five Years" by W. Kilchenmann, Dipl. Ing. (Member).
† 17th November (Aberdeen) "Elementary Nuclear Engineering" by H. F. Close, B.Sc. (Associate Member).
§ 6th December (Glasgow) "Modern Harbour and Coastal Tugs" (illustrated by films) by R. Beattie (Member).

The average attendance at the Glasgow senior meetings was 89, and at the Aberdeen joint meetings 53.

The attendance at the junior meeting was 58.

J. W. Bull (*Chairman*)

A. W. Clark (*Honorary Secretary*)

Annual General Meeting

The Annual General Meeting was held on Wednesday, 7th February 1962, at the Institution of Engineers and Shipbuilders in Scotland, 39 Elmbank Crescent, Glasgow, at 7.30 p.m. with Mr. J. W. Bull (Chairman of the Section) in the Chair.

The four retiring members of the Committee, Messrs. J. W. Bull, D. Lyon, M. G. Macgregor, B.A., and Dr. A. W. Davis, were replaced by the following six members: Messrs. R. M. Dunshea and J. Gillespie, Cdr. A. J. H. Goodwin, O.B.E., R.N., Messrs. N. M. Kissell, J. Laing and L. D. Trenchard, bringing the number of the Committee up to full strength.

The Officers and Committee for 1962 are as follows:

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

Chairman: R. Beattie

Committee: R. N. Cairns

A. Campbell, B.Sc.

G. Clarkson

Lt. Cdr. D. J. Coppin, R.N.

R. M. Dunshea

T. R. Evans

J. Gillespie

Cdr. A. J. H. Goodwin, O.B.E., R.N.

J. H. King

N. M. Kissell

J. Laing

L. D. Trenchard

R. Yates

Honorary Secretary: A. W. Clark

Honorary Assistant Secretary: J. D. B. Mundie

Honorary Treasurer: R. Marshall

* Published in the February 1962 Supplement to TRANSACTIONS.

† Joint meeting with the Aberdeen Mechanical Society.

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

§ Joint meeting with the Institution of Engineers and Shipbuilders in Scotland.

SOUTH WALES

The membership of the Section shows a decline from 267 to 237 registered members and an increase from 147 to 153 in non-registered members. The fall in registered membership is accounted for by the removal of members to other districts.

The following programme was arranged for the 1961 Session:

* 3rd February (Cardiff) "Details and Operating Data of Recent A.C. Installations" by A. N. Savage (Member).

2nd March (Cardiff) "Welding in Marine Engineering" by J. A. Dorrat, in association with the Institute of Welding.

3rd March (Cardiff) "Welding in Marine Engineering" by J. A. Dorrat, in association with the Institute of Welding.

18th October (Cardiff) "Lloyd's Register of Shipping Requirements in the Testing of Welders" by F. B. Bowring, M.A.

† 27th October (Swansea) "Brains Trust".

10th November Annual Dinner at the Royal Hotel, Cardiff.

20th November (Cardiff) "Marine Machinery Breakdowns" by J. H. Milton (Member of Council).

The meetings were all well attended.

The Annual Dinner was again a great success and was attended by the Chairman of Council, Mr. B. P. Ingamells, C.B.E.

At the Annual Golf Meeting held at the Glamorganshire Golf Club, the David Skae Cup was won by Mr. T. G. Whitelaw.

F. R. Hartley (*Chairman*)

T. C. Bishop (*Honorary Secretary*)

Annual General Meeting

The Tenth Annual General Meeting of the Section was held on Tuesday, 8th January 1962, at the South Wales Institute of Engineers, Park Place, Cardiff.

In presenting his report the Chairman, Mr. F. R. Hartley, expressed the hope that a further special effort would be made to continue improving the attendance at the meetings.

The financial report was read and approved.

The following were elected to serve on the Committee; Messrs. J. McE. Kay, D. Ormiston, P. Ridyard, R. A. Simpson and H. F. Widdas, replacing Messrs. R. G. Turnbull, H. G. Wickett, M.B.E. and J. Wormald, B.Sc., who retire after three years service and Mr. J. Osborne and Mr. J. E. Church (Member of Council).

The newly constituted Committee is as follows:

Vice-President and Chairman: D. Skae

Committee: R. F. J. Black

A. J. Cant

F. R. Hartley

J. L. Hindmarsh

H. S. W. Jones

J. McE. Kay

D. Ormiston

R. H. Rees, O.B.E.

P. A. Ridyard

R. A. Simpson

T. G. Whitelaw, B.Sc.

H. F. Widdas

Honorary Secretary: T. C. Bishop

Honorary Assistant Secretary: R. F. Munro

Honorary Treasurer: G. K. Beard, B.Sc.

* Published in the May 1961 issue of TRANSACTIONS.

† Junior Lecture.

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

The following meetings were held during 1961:

* 19th January (Southampton) "Safety Aspects of Nuclear Propulsion of Merchant Ships" by D. R. Murray Smith, B.Sc., H. N. E. Whiteside and Captain A. C. Manson.

21st February (Portsmouth) "Machinery Induced Vibrations" by Dr. A. J. Johnson and W. McClimont, B.Sc.

27th March (Southampton) "Novel Concepts in Marine Transport" by P. R. Crew, M.A.

26th September (Southsea) "High Speed Planing Craft" by Cdr. P. Du Cane, O.B.E., R.N.

17th October (Southampton) "Metallurgy in Marine Engineering" by J. E. Garside, M.Sc., Ph.D.

21st November (Southsea) "The Effect of Cavitation on Propeller Efficiency" by R. N. Newton, R.C.N.C.

It has been the aim of the Council to produce a balanced programme of papers as between naval architecture and marine engineering, as well as between practical and theoretical subjects. The high attendance at meetings and the interesting discussions that have followed appear to justify the choice.

A visit was made to the Weybridge Works of Vickers-Armstrongs (Aircraft) Limited.

The Annual Dinner was held on Friday, 27th October,

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at the Royal Beach Hotel, Southsea. The guest of honour was Rear Admiral Sir John Walsham, Bt., O.B.E., Admiral Superintendent, H.M. Dockyard, Portsmouth, and guests included representatives of the parent societies and local technical colleges.

* Published in the November 1961 issue of STUDENT TRANSACTIONS.

WEST MIDLANDS

There has been a marked increase in the Section membership, the total having increased from 255 to 343, the number of registered members has dropped by four, whilst the number of non-registered members has risen by 92.

The analysis of the present membership is as follows:

		<i>Registered</i>	<i>Non-registered</i>
Members	... ..	74	39
Associate Members	... ..	59	44
Associates	... ..	23	16
Graduates	... ..	16	10
Students	... ..	14	20
Probationer	Students	14	14
		200	143

Six meetings were held during the year and the following papers were presented:

- 26th January Annual General Meeting followed by "A New and Compact Design of Gas Cooled Reactor Installation for Marine Use" by C. Hartnell-Beavis.
- 22nd February "Developments of Medium Speed Diesel Engines for Marine Auxiliary Uses" by C. J. Hind.
- 16th March "Heat Exchangers—Design Aspects to Avoid Corrosion" by G. Page, B.Sc.
- 27th April "The History and Development of Air and Gas Compressing Plants" by M. J. Waldron.
- 21st September "Diesel Electric Installation for Propulsion and Cargo Handling of the Bulk Cement Carrier *John Wilson*" by H. E. Muckley (Member) and J. G. Derrington.
- 19th October "Fashioned in Steel" by R. C. Benson.

The average attendance at each meeting was 36, a slight increase from the previous year.

The September lecture was preceded by the visit of some sixty members and guests to the Brush Electrical Engineering Co. Ltd. Members were able to see under construction, electrical equipment for Diesel electric propulsion installations and turbo-alternator sets for marine and land installations. The Diesel locomotive division, the new research and development laboratories, were also included in the itinerary of the visit which was perhaps the most successful organized so far by the Section.

The Ninth Annual Dinner was held on Thursday, 16th November 1961, at the Queen's Hotel, Birmingham, under the Chairmanship of Mr. H. E. Upton, O.B.E., Chairman of the Section and was attended by 124 members and their guests.

The Section was once more honoured by the presence of the President, Mr. C. C. Pounder, also of the Chairman of Council Mr. B. P. Ingamells, C.B.E., and Mr. J. Stuart Robinson, M.A., Secretary of the Institute.

Among the guests were Mr. J. Vos, Managing Director of Stork-Jaffa, Professor O. A. Saunders, M.A., D.Sc.(Eng.), Head of Department and Professor of Mechanical Engineering at the Imperial College of Science and Technology, London, and Mr. J. W. Laing, Chief Engineer, G.E.C., Witton.

H. E. Upton (*Chairman*)

J. H. Gilbertson (*Honorary Secretary*)

Annual General Meeting

The Ninth Annual General Meeting of the West Midlands Section was held at the Birmingham Exchange and Engineering Centre, on Thursday, 18th January 1962. Mr. H. E. Upton,

O.B.E., was in the Chair and the meeting was attended by twenty-two members.

The statement of accounts was submitted and approved.

The Chairman thanked the Committee for the excellent support given during the year, particularly the retiring members Mr. J. R. Forrest, Lieut. D. S. Kennedy and Mr. G. R. Murison.

Two nominations for the Committee were received and were duly proposed and seconded as follows: Mr. G. H. Cornish, B.Eng., and Mr. J. W. Bell.

In the absence of any further nominations for the offices of Honorary Treasurer and Honorary Secretary, Mr. K. H. Harrison and Mr. J. H. Gilbertson respectively, were proposed and seconded.

The Officers and Committee for the ensuing year are as follows:

Local Vice-President, Birmingham, and Chairman:

H. E. Upton, O.B.E.

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

Committee: J. W. Bell

G. H. Cornish, B.Eng.

J. R. Cotterill, J.P.

A. L. Cramb

H. E. Muckley

R. S. Robinson, B.Sc.

Honorary Secretary: J. H. Gilbertson

Honorary Treasurer: K. H. Harrison

WEST OF ENGLAND

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

		<i>Registered</i>	<i>Non-registered</i>
Members	... ..	112	16
Associate Members	... ..	66	12
Associates	... ..	25	1
Graduates	... ..	14	4
Students	... ..	13	5
Probationer	Students	20	6
		250	44

Once again there has been a substantial increase in both registered and non-registered members of the Section. The total membership of 294 is greater than last year's figure by 36.

The full list of papers or lectures presented during 1961 is as follows:

- * 9th January (Bath) "Marine Machinery Failures" by H. N. Pemberton (Member of Council).
- 13th February (Bristol) "Recent Developments in Pump Auxiliaries for Ships" by T. McAlpine, B.Sc. (Member) and I. S. Paterson, B.Sc.
- † 2nd March (Bath) "Metallurgy in Marine Engineering" by Dr. J. E. Garside, M.Sc.
- ‡ 13th March (Bath) "General Developments in Ceramics for Marine Engineering" by F. H. Aldred, B.A., and N. W. Hinchliffe, B.Sc.
- § 10th April (Bristol) "Details and Operating Data of Recent A.C. Installations" by A. N. Savage (Member).
- 9th October (Bristol) "Water Treatment for High Pressure Marine Boilers" by T. V. Arden, Ph.D., F.R.I.C., and F. C. Blight.
- 13th November (Bath) "The St. Lawrence Seaway" by John C. G. Hill.
- || 11th December (Bristol) "The Trials and Operation of the Gas Turbine Ship *Auris*" by R. M. Duggan, M.A. (Associate Member), and A. T. O. Howell (Associate Member).

Although the average attendance at meetings for the first half of the year was only twenty-five, there was a marked increase in the second half with an average attendance of thirty-four, and it is hoped that this improvement will continue.

Two apprentices qualified for the Lloyd's Register of

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Shipping Award: these being R. E. Davey and Stuart H. MacMillan who were duly nominated.

On Thursday, 18th May 1961, a party of members, together with their ladies and guests numbering forty in all, made a visit to the Esso Refinery at Fawley, by courtesy of the Esso Petroleum Company Ltd.

The second Annual Dinner and Dance was held at the Royal Hotel, Bristol, on Saturday, 28th October 1961.

The principal guests were the Chairman of Council, Mr. B. P. Ingamells, C.B.E. and Mrs. Ingamells, the Chairman of the Devon and Cornwall Section, Mr. W. E. B. Dainton, and Mrs. Dainton and Mr. F. R. Hartley (Chairman of South Wales Section) and Mrs. Hartley. The function was again an outstanding success and the evening was thoroughly enjoyed by members, their ladies and guests, numbering 120 in all.

J. P. Vickery (*Vice-Chairman*)

J. E. Gander (*Honorary Secretary*)

Annual General Meeting

The seventh Annual General Meeting of the Section was held at Smith's Assembly Rooms, Westgate Buildings, Bath, on Monday, 8th January 1962, at 7.30 p.m. Mr. J. P. Vickery (Vice-Chairman of the Section) presided and twenty-seven members attended.

In reviewing the activities of the Section during 1961 the Chairman spoke of the grievous loss suffered by the Section by the sudden death of its Chairman, Mr. W. John, M.B.E., and of the extremely able, conscientious way in which Captain W. R. Stewart, R.N., had filled his place until his appointment as Chief Staff Officer (Technical) at the Naval Base, Singapore.

The increase in registered membership of the Section amounted to approximately eleven per cent which it was thought was a satisfactory figure.

The papers presented during the year had been good and of general interest to marine engineers. Once again, the only disappointing aspect of the Section's activities was the low attendance at meetings.

The Annual Report was read by the Honorary Secretary

and the Honorary Treasurer presented the financial statement. Mr. F. C. Tottle, M.B.E., thanked the Honorary Secretary and Honorary Treasurer for their work during the year and proposed the adoption of the annual report and financial statement. The proposal was seconded by Mr. T. A. Rees.

Seven nominations had been received for the eight vacancies on the Committee and the following members were elected: Mr. W. C. Atkinson, Lt. Cdr. A. N. S. Burnett, R.N., Mr. G. B. Dawson, Cdr. R. M. Inches, R.N., Capt. R. G. Raper, R.N., Mr. T. A. Rees and Capt. A. C. W. Wilson, R.N.

At a meeting of the Committee held after the Annual General Meeting, Captain R. G. Raper, R.N., was elected Chairman of the Section and Mr. J. P. Vickery, Vice-Chairman. Mr. D. V. Hyde was co-opted to serve for one year.

The Committee for 1962 is therefore constituted as follows:

Local Vice-President: D. W. Gelling

Chairman: Capt. R. G. Raper, R.N.

Vice-Chairman: J. P. Vickery

Committee: W. C. Atkinson

R. S. Brown

W. Brunton

Lt. Cdr. A. N. S. Burnett, R.N.

G. B. Dawson

D. V. Hyde (co-opted)

Cdr. R. M. Inches, R.N.

Cdr. P. R. Marrack, R.N.

J. A. L. Peck

T. A. Rees

Cdr. C. W. T. Saunders, D.S.C., R.N.

G. S. Selman

Capt. A. C. W. Wilson, R.N.

Honorary Secretary: J. E. Gander

Honorary Treasurer: A. J. A. Davies

* Published in the October 1960 issue of TRANSACTIONS.

† Junior Lecture.

‡ Published in the March 1961 issue of TRANSACTIONS.

§ Published in the May 1961 issue of TRANSACTIONS.

|| To be published in the April 1962 issue of TRANSACTIONS.

OVERSEAS

CANADIAN DIVISION

ATLANTIC

Since its initiation on 8th June 1960, the membership of the Atlantic Section has increased from thirty to eighty-five.

During the year 1961 the activities of the Section were as follows:

February A film entitled "Inflatable Liferrafts", produced in England and approved by the Ministry of Transport was shown to the Section.

† March A paper entitled "The Development of Heavy Duty Marine Diesels During the Past Five Years" by W. Kilchenmann, Dipl. Ing. (Member) preceded by a dinner held in Dartmouth.

§ April A paper entitled "An Introduction to the Art of Forging" by D. Jamieson.

May A meeting was held to welcome Mr. W. R. Harvey, O.B.E., the then Chairman of Council, who spoke on "The Training of Young Marine Engineers".

October A paper entitled "Non-Destructive Testing in the Shipbuilding Industry" presented by the author J. Martin.

November A paper entitled "Marine Insurance" by D. Kerr, was read by the author and discussed at length.

December Social Evening and Ladies Night with a reception and informal dance.

J. S. Porteous (*Chairman*)

K. Nicol (*Honorary Secretary*)

Annual General Meeting

The Annual General Meeting of the Atlantic Section was held on Friday, 19th January 1962, at H.M. Dockyard Management Headquarters, Halifax. Mr. J. S. Porteous was in the Chair and 30 members were present.

The Honorary Secretary's report and the Honorary Treasurer's financial statement were read and approved.

Mr. G. Curphey (Local Vice-President) in his report commented on the growth of membership in the Section. He spoke with regret of the sudden and untimely death of the Vice-President, Rear Admiral B. R. Spencer, C.D., R.C.N. and said that in his successor, Rear Admiral J. B. Caldwell, M.B.E., C.D., R.C.N., they had a most capable and energetic personality. He thanked the retiring Committee members for their co-operation and said a special word of appreciation and thanks to the Officers and Committee for their support and encouragement.

The Committee for 1962 is as follows:

Local Vice-President, Halifax: J. S. Porteous

Chairman: T. Howard Rogers

Committee: Lt. Cdr. J. D. Clarke, R.C.N.R.

H. A. McDowell

L. M. Mathers

J. Mitton

Lt. Cdr. T. G. Threlkeld, R.C.N.

Honorary Secretary: K. Nicol

Honorary Treasurer: G. S. Ronald

Following the Annual General Meeting a film on "Marine Radar" was shown.

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GREAT LAKES

The membership of the Great Lakes Section as at the end of January 1962 was 74, 60 of the total being registered members.

During 1961 the following papers were presented:

- † 22nd March "The Development of Heavy Duty Marine Diesels During the Past Five Years" by W. Kilchenmann, Dipl. Ing. (Member).
- 10th May "Metal Fatigue" by T. W. Hicks.
- 5th October "Propeller Manufacture" by D. M. Harris.
- 30th November "Torsional Vibration" by T. W. Spaetgens.

Annual General Meeting

The Annual General Meeting of the Great Lakes Section was held on Friday, 16th February 1962, at the Engineers Club, Toronto. Mr. L. D. MacBean was in the Chair and twenty-two members attended.

The financial statement was read and approved.

The Chairman reported that Mr. F. G. H. White had been elected to serve on the Committee in place of Cdr. V. F. O'Connor, C.D., B.Sc., R.C.N., who had moved to Nova Scotia.

Mr. MacBean in his report announced the formation of The Executive of the Canadian Division, comprising Rear Admiral J. B. Caldwell, M.B.E., C.D., R.C.N., Mr. Gordon Stead and Mr. T. M. Pallas, P.Eng.

The Committee is as follows:

- Local Vice-President, Toronto: L. D. MacBean
- Chairman: E. L. James
- Committee: Cdr. G. P. Fowlie, R.C.N.R.
- Cdr. R. C. H. Reed, D.S.C., R.D., R.C.N.R.
- F. Robb
- A. C. Waldie
- F. G. H. White
- Honorary Secretary: D. G. Champion
- Honorary Treasurer: J. H. Edlund

ST. LAWRENCE-OTTAWA

The Annual General Meeting of the St. Lawrence-Ottawa Section was held at the Sailor's Institute on the 22nd January 1962. The Local Vice-President, Montreal, Lt. Col. S. D. Clarke, B.Sc., and 30 Members were present on this occasion.

Mr. F. Minnikin, the Chairman, reported that good progress had been made in all directions. He said that the Canadian Division had suffered a great loss through the death of Rear Admiral Spencer in November, but that they had a worthy successor in Rear Admiral J. B. Caldwell, M.B.E., C.D., R.C.N.

Successful meetings during 1961 were as follows:

- † March "Development of Heavy Duty Marine Diesels During the Past Five Years" by W. Kilchenmann, Dipl. Ing. (Member).
- May Reception for Mr. W. R. Harvey, O.B.E., Chairman of Council, and Mr. J. Stuart Robinson, M.A., Secretary.
- "Experience with Hardened and Ground Gearing in the Royal Canadian Navy" by D. K. Nicholson (Associate Member).
- June Visit to the *Empress of Canada*.
- ‡ November "The *Great Eastern*" by R. G. Fuller.

The Chairman of the Membership Committee reported gratifying progress in the growth of membership in the Section, and the figures were now as follows:

	Registered	Non-registered
Members	88	13
Associate Members	25	4
Companions	2	—
Associates	11	2
Graduates	5	—
Students	—	1
	131	20

The Chairman of the Papers Committee reported a reasonably successful session during 1961, and asked that all members of the Section should take an active interest in bringing new technical papers to the attention of the Committee.

The Hon. Secretary, Mr. Walter P. Graham, and the Hon. Treasurer, Mr. D. Stonely, retired and were unanimously re-elected for a period of one year. The retiring Committee Members—Messrs. H. J. Aspin, J. R. J. Bodington, and D. L. Findlay, were replaced by Messrs. A. E. Burgess, G. Burgess, and Lt. Cdr. W. G. Attwell, R.C.N.

The new Committee is as follows:

- Local Vice-President, Montreal: F. Minnikin
- Chairman: *To be appointed*
- Committee: A. E. Burgess
- G. Burgess
- Lt. Cdr. W. G. Attwell, R.C.N.
- Honorary Secretary: Walter P. Graham
- Honorary Treasurer: D. Stonely

VANCOUVER

The Annual Fall Dinner Meeting of the Vancouver Section was held on Monday, 20th November 1961, at the Hotel Vancouver, Vancouver.

Mr. W. Dey (Local Vice-President and Honorary Secretary) opened the meeting which was attended by thirty members and guests. The following three members were newly elected to the Committee: Messrs. R. W. Brown, F. C. Salter and T. Taylor.

The Committee is as follows:

- Local Vice-President and Honorary Secretary: W. Dey
- Chairman: R. Rennie, M.B.E.
- Committee: R. W. Brown
- E. J. Jones
- F. C. Salter
- T. Taylor
- L. V. Wilson
- Honorary Treasurer: R. G. Boomer

A paper entitled "Changing Patterns of Training for Marine and Stationary Engineers" was read by the author, Dean H. Goard, Assistant Director of Adult Education in Vancouver.

In the discussion which followed eight speakers took part and the author dealt with their many questions in an able manner.

* Published in the Canadian Supplement, No. 4, June 1961.

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

‡ Published in the Canadian Supplement, No. 6, December 1961.

§ Published in the Canadian Supplement, No. 7, March 1962.

INDIAN DIVISION

BOMBAY

The number of members registered with this Section on 31st December 1961, was 188 compared with 170 in the previous year which shows an increase of over ten per cent having taken into account the members leaving India.

A divisional organization has been established in India on similar lines to that of the Canadian Division with the headquarters at Bombay. Rear Admiral T. B. Bose, B.Sc., I.N., has been appointed as first Vice-President for India and Mr. T. M. Sanghavi as Honorary Secretary.

It was announced at the Annual General Meeting that the Shipping and Shipbuilding Conference (1961) would be held in December 1961 and that Rear Admiral T. B. Bose, B.Sc., I.N., Messrs. J. E. Radcliffe, B. S. Sood and C. S. Sundaram would represent the Bombay Section at the Joint Committee for the Conference.

Technical meetings were held during the year, one, a joint meeting with the Institution of Engineers (India), Bombay Centre, held at Scindia House. This was the first time a joint meeting had been arranged with the Institution of Engineers and the Committee wished to thank the Honorary Secretary, Mr. V. Y. Kamat, and the author of the paper Mr. Kasthuri, for their co-operation.

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- 25th October "Engineering Education in India—Some Reflections" by S. Kasthuri (Member).
- 4th-6th December Shipping and Shipbuilding Conference at which nineteen technical papers were read relating to the following subjects: safety aspects, Diesel machinery, ancillary machinery, ship maintenance training, design and construction of ships, cargo handling, propellers, meteorology and oceanography.

The Conference, sponsored jointly by The Institute of Marine Engineers (Bombay Section), The Institution of Marine Technologists and The Company of Master Mariners of India, was held in the Conference Hall of Scindia House which Mrs. Sumati Morajee, Managing Director, The Scindia Steam Navigation Co. Ltd. had generously placed at their disposal.

Nineteen technical papers were presented in all at the five sessions which were attended by over 150 delegates from many parts of the world. Amongst the delegates were Mr. B. P. Ingamells, C.B.E. (Chairman of Council), Mr. W. J. Ferguson, M.Eng. (Vice-President) and Mr. J. Stuart Robinson, M.A., Secretary of the Institute.

Advance copies of papers read before the Institute in London were supplied to members who wished to contribute to the discussions by correspondence.

Mr. A. C. Kidd was elected Chairman of Committee on 10th March 1961. He subsequently resigned his membership of the Section owing to his leaving India and on 2nd August Mr. D. B. Daruvala was elected Chairman, and Mr. W. Gay was co-opted to his place on the Committee.

The Committee thanks all members for their enthusiasm and support, also the following organizations for the assistance given during the year: The Institution of Marine Technologists; The Institution of Engineers (India), Bombay Centre; The Directorate of Marine Engineering Training; Nautical and Engineering College; Scindia Steam Navigation Co. Ltd.; The Great Eastern Shipping Co. Ltd.; Alcock, Ashdown and Co. Ltd.; The Company of Master Mariners of India; The Times of India, The Indian Express and Free Press Journal of India.

D. B. Daruvala (*Chairman*)
C. S. Sundaram (*Honorary Secretary*)

DURBAN

The programme for the Durban Section has once again been of a varied and interesting nature and has included the following meetings:

- 16th February Annual General Meeting followed by two technical and topical films shown by courtesy of the Shell Oil Company.
- 24th May "The Manufacture and Erection of Large Steam Turbines" by R. Carnochan.
- 3rd August "The Non-destructive Testing of Materials" by R. Wehr, supported by a film and practical demonstrations.
- 26th October "A Review of Mechanical Stokers for Shell Boilers" by S. R. Strong, followed by a film "Continuous Oil Combustion" shown by courtesy of the Shell Oil Company.

The quarterly luncheons have been continued and have been greatly enjoyed by members and guests.

A prize to the value of £10 for the purchase of books was awarded to the most promising student of the Natal Technical College, desirous of furthering his studies in Marine Engineering.

The number of members as at the end of the year is 39. The Committee for 1962 is constituted as follows:

Local Vice-President: T. Ratcliffe
Chairman: C. T. Glover
Committee: R. F. Dillon
H. T. V. Horner
G. C. Loveleace
T. H. Noel
D. G. Strickland

Honorary Secretary: J. F. Smith
Honorary Treasurer: J. R. Holdsworth

EASTERN U.S.A.

During the year 1961, the following meetings have been held:

- 13th March A lecture entitled "The Development of Heavy Duty Marine Diesels During the Past Five Years" was presented by W. Kilchenmann, Dipl. Ing. (Member). The enthusiastic discussion on this timely subject was extensively reported in the marine press. The lecture was followed by a reception and dinner.
- 14th March The above lecture was re-presented before a Regimental Assembly of 375 Engineering Cadets at the U.S. Merchant Marine Academy, Kings Point.
- 30th November Professors of Nuclear Engineering M. J. Gross and M. E. Hirschowitz presented a lecture entitled "Engineering Officer Training Programmes for n.s. Savannah" at a meeting attended by fifty members and 450 Engineering Cadets at the U.S. Merchant Marine Academy, Kings Point. The Members dined with the Regiment and also toured the new Nuclear Engineering Laboratory.

The Chairman of Council, Mr. W. R. Harvey, O.B.E., and the Secretary, Mr. J. Stuart Robinson met the Section Committee at a reception in New York City on 1st May.

Applications for Student Membership have been received from twelve Engineering Cadets of the U.S. Merchant Marine Academy and consideration is being given to the formation of a Student Section at the Academy. The Committee is most grateful to the Engineering faculty for the keen interest they have taken in Institute activities.

The lectures and meetings held since the formation of this Section in 1960 have established the Section as a technical group devoted to the advancement of marine engineering with emphasis on international operations.

The number of members at the end of the year was 90.

The Committee is constituted as follows:

Vice-President for the U.S.A.: A. R. Gatewood
Chairman: J. H. Thomas
Committee: F. Andres
P. A. Birkeland
W. H. Low
J. E. McCoy
E. D. Story, B.S.
H. H. G. S. Bauer
C. S. Church
G. H. Hodges
A. E. Lyman
J. J. McMullen, B.S., M.S., Dr. Ing.
H. G. Webber

Honorary Secretary: P. C. Speer
Honorary Treasurer: P. F. Gresser

The interest and co-operation of the Council in the activities of the Section is deeply appreciated.

The Committee is grateful to all the local members for their support through active participation in the meetings and their efforts to introduce new members.

J. H. Thomas (*Chairman*)
P. C. Speer (*Honorary Secretary*)

SINGAPORE

Active corporate membership (i.e. Members and Associate Members) at the end of 1961 totalled 60, while Associates and Student Members accounted for 19 making a total of 79, an increase of 11 over the previous year.

During the past year the activities of the Section, with

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one exception, have been confined to participation in functions arranged by the Joint Group of the senior engineering institutions.

The exception was a visit to s.s. *Serenia*, the British-built tanker, on its maiden voyage to Singapore. Twenty-one members visited the vessel; its unique machinery installation was the subject of a paper read before the Institute in London and published in the September 1961 issue of TRANSACTIONS.

Other functions to which members were invited were:

April A paper entitled "Buttons which Press Themselves" read by G. C. Roolse.
August A visit to Bukom Refinery.
September A paper entitled "The Experimental Investigation of Space" read by J. A. Ratcliff.
October "Electricity in Developing Rural Areas" by E. W. Golding. In the same month a visit to Johore Bahru Power Site was arranged.

Apart from the visit to Bukom these functions were not well attended, however the Joint Group is still appreciative of the support of the Section.

Annual General Meeting

The Annual General Meeting of the Section was held on Friday, 9th February 1962, in the Shell House Theatre, Shell House, Collyer Quay, Singapore, at 5.30 p.m.

At a previous Committee Meeting held on Tuesday, 23rd January 1962, Mr. J. McA. Brown was elected Chairman, proposed by Mr. W. Ward and seconded by Mr. D. Litherland.

The Committee for 1962 is constituted as follows:

Local Vice-President: S. A. Anderson
Chairman: J. McA. Brown
Vice-Chairman: J. O. B. Canavan
Committee: F. Helm
D. Litherland
L. D. Phillip
K. C. Slater
W. Ward
J. R. Watson

Honorary Secretary: J. Snadden
Honorary Treasurer: J. Mair

VICTORIA

The membership of the Victoria Section is now 105.

The activities of the Section held during the year 1961 were as follows:

2nd May A lecture on "Inflammable Liquid Fires and Their Extinguishment" illustrated with films, by G. Farrell of the Vacuum Oil Company.
11th July Ladies' Night, held in conjunction with the Royal Commonwealth Society.
11th August A talk on "One Hundred Years of Merchant Ships on the Australian Coast" by J. C. R. Sundercombe, B.Eng. (Sydney) (Member).
21st August Apprentice Night, held at the Radio Theatre of the Royal Melbourne Institute of Technology.
26th September A lecture on "The Vibration of Propellers" by J. Watkins, attended by several members on the invitation of The Royal Institution of Naval Architects.
20th October The Fifth Annual Dinner was held at the University Union Private Dining Room; the guest speaker was Mr. Hubert Opperman, M.P.
10th November A lecture entitled "Progress in Marine Engineering" by G. Seales (Member of Committee).

During the ensuing year the meetings will be held at the Royal Society of Victoria, Victoria Street, Carlton.

The Committee for 1962 is as follows:

Local Vice-President: A. J. Edwards
Committee: P. Bossen
V. F. Harris
J. E. North
G. Seales
J. B. Thomson
Lt. Cdr. D. W. K. Vagg, R.A.N.

Honorary Secretary: K. Paxton
Honorary Treasurer: Lt. Cdr. J. H. Coles, R.A.N.V.R.

Representatives' Reports

British Conference on Automation and Computation: Engineering Applications Group. Representatives: H. E. Upton, O.B.E. and J. Stuart Robinson, M.A.

The new Constitution adopted during 1960 included among its objectives, the stimulation in the development and application of automatic controls and computation.

During the year 1961 the following panels were formed:

a) *Education and Training*

Faced with a vast field, the Panel has had to spend considerable time collecting information and deciding on areas in which the influence of B.C.A.C. could be most effective.

b) *Public Relations*

The B.C.A.C. Bulletin has been discontinued and replaced by an occasional news sheet known as *B.C.A.C. News*.

c) *Research and Development*

It was decided that the Panel should assess, industry by industry, the application of automation and computation, starting with those industries of importance to the national economy and in which automation might have the greatest impact.

It has been decided that the best contribution would be obtained by concentration on only one or two industries.

Relations are being established overseas with groups and organizations having similar interests.

Conferences and international meetings will be announced in the *B.C.A.C. News*.

British National Committee for Non-destructive Testing.

Representative: R. H. Paddon Row.

The National Committee met five times during 1961, and in addition, sub-committees were working on various problems. The membership of the Committee remained unchanged and, as in the past, the only addition was one co-opted individual expert.

International Congress

Plans for the next International Congress which is to be held in England from 9th to 13th September 1963, are well under way. Responsibility for the organization of this Congress rests with the Institution of Mechanical Engineers, but the National Committee was asked to establish a Papers Sub-Committee and Social Sub-Committee. These were established as small exploratory committees but have now been augmented by representatives of the Societies directly concerned with Non-destructive Testing.

The Papers Sub-Committee has established a nucleus of some 28 papers and lectures for the technical programme while the Social Sub-Committee has devised an extensive tour to supplement the social events in London.

The National Committee currently holds the Secretariat of the Standing Committee for International Co-operation within the Field of Non-destructive Testing, which amongst other things, regulates the venues and frequency of the International Conferences. The Terms of Reference and Rules for the Standing Committee, drafted by the British National Committee, have met with a considerable degree of agreement in all countries and, subject to final amendments, are expected

to be adopted when the Standing Committee meets in September 1963.

A Symposium on the recruitment of inspectors and the economics of inspection which took place in Oxford from the 5th to 8th September 1961, was attended by some 180 people. A Conference on Non-destructive Testing in Electrical Engineering was held from 8th-10th October and 45 papers were presented.

A Symposium on Standardization in Non-destructive Testing is being arranged by the Institute of Production Engineers and will be held in Harrogate from 20th-22nd September 1962.

A Working Party set up to examine the future requirements of industry in non-destructive testing techniques ended its first series of investigations and a report will be issued shortly. The Working Party has been asked to continue its work as the evidence collected related largely to current problems, and it is considered that future investigations should be carried out into the long-term concepts of industrial developments.

The British Shipbuilding Research Association. Representative: T. W. Bunyan, B.Sc.

1961 was an important year for the British Shipbuilding Research Association in that the shipbuilding and marine enginebuilding industries having given serious consideration to the future organization of their central co-operative research activities announced a scheme of re-organization. Under the plans that are now being actively developed with a view to completion in the spring of 1962, the British Shipbuilding Research Association, as at present constituted, will cease to exist and its research activities along with those of PAMETRADA in the steam and gas turbine and gearing field will be merged in a new association to be known as the British Ship Research Association. The design and development activities as regards turbines previously carried out by PAMETRADA will in future be undertaken by a new organization—perpetuating the name PAMETRADA—which is being established by marine turbine builders.

The new British Ship Research Association will have its headquarters at the London office of the present B.S.R.A. and the central administration, naval architecture, production research and intelligence activities will be conducted from there. The Association will take over the PAMETRADA Station which will operate as the Wallsend Research Station of the new B.S.R.A. and will be the main centre for its marine engineering investigations. The Committee structure of the organization is being revised to provide for a measure of streamlining and to ensure that the industry plays the maximum possible part in all the activities. It is expected that the research activities will be developed and expanded and the provisional plans contemplate an initial level of expenditure of the order of one million pounds per annum. Shipowners are to play an important part in the new B.S.R.A.

While these interesting developments were taking place the research activities of the old B.S.R.A. continued with vigour during 1961 and many of the items are of great interest to members of the Institute. During the year the experimental investigation of the laws of natural circulation in watertube

boilers was virtually completed. The subject of automatic combustion control is very much to the fore at the present time. Some ten years ago B.S.R.A. issued a report which analysed the general problems and described the systems then available. These systems only provided control under steady steaming conditions due to lack of burners having a sufficiently large turn-down ratio. During the past year a further report has been approved for issue to member firms providing a fresh assessment of the position and dealing specifically with possibilities for full-range control under manoeuvring and standby conditions as well as for steady steaming.

Other work has continued concerned with internal combustion engines. For example, the experiments on Diesel engine cylinder wear performed during the year have yielded results of considerable practical interest. Further tests are in hand. Considerable progress has been made at Liverpool University in the work carried out on unsteady flow in exhaust systems. The work has included the development of rapid calculation methods involving the use of electronic computers and steps have been taken to provide member firms with an opportunity of studying these.

The investigations of the performance of various types of ventilator head have continued and attention has been paid to the influence exerted by the siting of the ventilators. The experimental examination of the process of heating heavy oil in cargo tanks has continued and a report issued to member firms dealing with the performance of conical heating coils. The work has included tests using $\frac{1}{4}$ -scale model of a cargo tank in addition to full scale tests on a tanker. The object of the latter was to determine the magnitude of heat losses under service conditions. In the opinion of the Association's Propeller Corrosion Panel the most useful remedy for preventing impingement attack on propellers lies in cathodic protection. Trials have, therefore, been initiated to study the practical performance of various systems of cathodic protection and a number of shipowners have provided much useful information.

Investigation of vibration troubles associated with machinery continue to occupy a good deal of the time of the staff and provide a service which is greatly appreciated by firms. At the same time B.S.R.A. has continued with its systematic programme of work on vibration. For instance, the principal remaining unknown in the calculation of the longitudinal resonant condition of a machinery installation is the stiffness of the thrust block seating and associated structure. B.S.R.A. have obtained information on this by carrying out measurements at sea to establish axial vibration resonance curves, while static stiffness tests have also been carried out on a range of sizes of Michell thrust blocks.

These are but a few of the machinery items. On the naval architecture side many important investigations have been carried out concerned with hydrodynamic problems, the strength of structures and the performance of the ship. In the field of performance an important item has been to obtain data on the relationship between trial performance and hull roughness, with increasing attention being paid to the influence of propeller roughness. Extensive series of measured mile trials have been carried out on a number of vessels at various times during their period of service. These investigations included trials in a number of conditions in order to find the effect of grit blasting the hull and polishing the propeller. Data obtained from such repeat trials represent a vital part of the information required to assess the technical value of different hull treatments which, in turn, is a necessary part of the broader subject of the economics of ship operation. In matters concerning the possible application of nuclear energy to merchant ship propulsion the Association has continued to be active. The members of the team in the special Atomic Energy Section work at both the Winfrith and Risley establishments of the Atomic Energy Authority. The announcement during the year by the Government of its plans to encourage the vigorous prosecution by the A.E.A. of a programme of research directed at developing a potentially more economic reactor for merchant ship applications has enabled B.S.R.A. to determine its future work in the

field. The Association will co-operate actively with the Authority in this programme and will provide staff to assist the work.

The Production Research Section commenced its operations at the beginning of 1961 and some progress has been made in recruiting staff. During the year a number of shipyards in the United Kingdom and abroad have been visited and good contacts established with manufacturers of plant and equipment. One or two investigations have been put in hand but a major concern has been to draw up a programme of research. This work is now virtually complete and the section will be taken over by the new B.S.R.A. and expanded within it.

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

In the 1961 examinations, the following points were noted: Shipbuilding—an increase in the number of candidates. Ship Joinery—a feeling that, in the practical tests, there was too much work for the time available.

Yacht and Boat Building—a much higher standard in the answers.

A completely revised scheme in Shipbuilding has been drawn up and approved by the Committee. The work required has been specified in a new way and the subject of General Studies has been included. The Committee has also undertaken to review the schemes in Ship Joinery and in Yacht and Boat Building.

East Ham Technical College: Engineering Advisory Committee.
Representative: R. S. Brett.

Three meetings of the Committee were held last year on the 23rd March, 6th July and 16th November 1961. Main points arising from these meetings were:

i) *New College Buildings*

Committee members inspected the progress and construction of the new College Workshop Block and the Teaching and Administration Block, during the year. They were impressed with the diversity and quality of the equipment being installed in the workshops.

The College Engineering Department moved into the Workshop Block during the summer and the Administration Block should be ready for occupation in mid-1963.

ii) *Enrolments*

Enrolments in the Engineering Department for the 1961/62 session totalled 1,870 which was 17½ per cent higher than for last year. It was interesting to note that Block Release enrolments fell from 72 last year to 33 in 1961 and this was due to the recession in the radio and television manufacturing industry.

iii) *Higher National Certificate in Mechanical Engineering*
With the great volume of City and Guilds' work the College has developed a bias towards Production Engineering and the Higher National Certificate Course has now been altered to a course on Production Engineering by inclusion of the subject "Principles of Engineering Production".

iv) *Electrical Engineering National Certificates*

A part-time Day Course has now been started for the Higher National Certificate in Electrical Engineering (Electronics).

v) *City and Guilds Course in Engineering Drawing*

Consideration is being given to the starting of a City and Guilds Course in Mechanical Engineering Drawing next season. Candidates would have to possess an Ordinary National Certificate or else be over 30 and to have worked in an engineering drawing office for at least four years. The Committee strongly supported the Principal's suggestion that entry to the Course be limited to persons with a suitable practical engineering background.

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vi) *Changes in entry to National Certificate Courses*

The Committee notes that due to the tendency to raise the standard of National Certificate Courses after this year it would no longer be possible to enter such a Course without (a) taking the G.1 and G.2 Course and passing the external examination, or (b) taking four G.C.E. Certificates including Mathematics and Science. This raises obstacles for Evening Class students because G.1 and G.2 Courses are held in the day only.

- vii) *Sandwich Course in Electrical Engineering (General)*
It was hoped to put on a 26 week straight Sandwich Course next season, aiming at two Ordinary National Certificates with five subjects after two years and a Higher National Certificate after a further two years complete with all the endorsements for Part 2 of the Institution of Electrical Engineers' examination.

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

The work of preparing, making and assessing examinations has proceeded as usual. The following decisions have been made:

Graduates with honours from an engineering school of an Indian University are granted exemption from Part I.

Successful completion of the four year Student Apprentice Courses in H.M. Dockyard Technical Colleges is accepted for exemption from Part I.

The Institute of Engineers, Ceylon, is admitted to membership of the Committee.

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

The fourth edition of these regulations was issued in September 1961.

International Institute of Refrigeration: Standing Committee. Representative: K. C. Hales, M.A.

The D.S.I.R. Standing Committee met twice in 1961. The main subjects discussed were the relations between the International Institute and other International bodies, United Kingdom membership of commissions, proposed survey of refrigeration in member countries and the establishment and administration of a prize fund.

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

The Committee met twice during the year, on 6th April and 19th October and both meetings were devoted primarily to consideration of arrangements for the second International Conference on Stress Analysis, to be held in Paris from 10th-14th April 1962, and to ensuring that there was an adequate representation of British contributions to the Conference. As a result of publicity arranged by the Committee, 21 papers were offered, of which 17 were accepted by the organizers (G.A.M.A.C.—Organisee par le Groupement pour L'avancement des Methodes d'analyse des Contraintes). This number represents about 20 per cent of the total contributions and both the number and quality of the British papers is considered to be satisfactory.

The list of topics under consideration for future conferences was reviewed and developed during the year, and suggestions for possible future conferences tabled for consideration during 1962.

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

Representative: R. Cook, M.Sc.

A Symposium, organized jointly by the Institution of Engineering Inspection and the Society of Non-destructive Examination was held in Oxford from the 5th-8th September,

1961, and covered the combined subjects of Recruitment of Inspectors and The Economics of Inspection. The attendance numbered 180, and discussions had been stimulating.

At the request of the Joint Committee, the Institution of Mechanical Engineers is to hold an Informal Discussion on Testing Machine Design on 9th October, 1962.

The Committee has under discussion the possibility of a Symposium on the subject of Acoustic Properties of Materials.

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

The Committee met twice during 1961, on 17th May and 6th December.

Rules for Steel Trawlers Panel

The work of the Panel on the revision of the Trawler Rules which commenced in April 1960, was completed and their proposals for revision of the Rules were submitted to the Committee and adopted on 17th May 1961.

The following major items were also approved by the Technical Committee:

Alteration to the Rules consequent on the International Conference on Safety of Life at Sea

The International Conference on Safety of Life at Sea formulated certain requirements which have a bearing on classification—the alterations proposed are designed to bring the Societies' Rules into line with the International Conference requirements.

Rules for Electrical Equipment, etc.

Butyl which for the past three or four years has been allowed as a cable insulant subject to special considerations now becomes an accepted material.

Rules for Fire Protection, etc.—Chapter F

Chapter F has been completely revised to include the relevant requirements of the International Conference for the Safety of Life at Sea and to bring the rules generally into line with modern developments in fire fighting.

Rules for Steel Ships (Oil Tankers)

These Rules were last revised in 1948, since when advances have been made in methods of anti-corrosion coatings and cathodic protection. The revised Rules take notice of these modern protective measures by allowing a reduction of certain scantlings when a tanker is fitted with an approved method of corrosion control.

In addition, amendments were agreed on the following subjects:

Rules for Heavy Oil Engines—Explosions in Starting Air Systems.

Rules for Steel Ships—Protection of Steelwork.

Rules for Refrigerated Cargo Installations—Refrigerant Gases and Welding of Galvanized Brine and Refrigerant Pipes.

Rules for Survey of Machinery—Screw Shaft Oil Glands.

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

Since the formation in the middle of 1961 of the Board of Governors for the above four colleges, four meetings have been held.

Of particular interest to the Institute are the major developments which are taking place, or are planned, for the Riversdale College. Discussions have taken place on the future provision of workshop training facilities at Riversdale to satisfy Ministry of Transport requirements for Phase 3 training of apprentice marine engineers, and plans are well in hand.

It is a body on which the Institute can have a very real influence.

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

A one-day conference with representatives from all local industries was held in March 1961. The subjects under dis-

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discussion were "Recent Developments in Engineering Education", the problems of organizing Block Release Courses and the "Industrial Viewpoint".

The Conference has helped to prepare the way for Block Release Courses in the region.

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

The useful connexion of the Institute with this College has continued including representation on the Staff Sub-Committee. The College is now playing an increased part in the Alternative Training Scheme and it is expected that this aspect of its functions will be steadily increased.

It is recommended that the Institute's connexion with this College should continue and that every encouragement and, when feasible, assistance, be given to this College in their valuable work of educating and training marine engineers.

Welsh College of Advanced Technology, Cardiff. Representative: D. Skae.

Meetings of the Governors and Administrative Committee were held during the year and at the last meeting of the Engineering Advisory Committee, held on 3rd October, a lengthy discussion took place on the subject of the Marine Engineering Courses offered by the Colleges. It was suggested to the Sub-Committee that in entry qualifications, type of instruction and standard of examinations, this course was not of a level suited to a College of Advanced Technology.

After full discussion it was agreed unanimously to place the following recommendations before the Governing Body:

- The Advisory Sub-Committee for Engineering recommend: that the Marine Engineering Course be withdrawn from the Welsh College of Advanced Technology and transferred to another college to which it would be more suited by reason of entry qualifications and standard of examinations.
- that in view of the importance of Cardiff as a sea port it is essential that such a course be provided within the City; therefore it is suggested that the Cardiff Local Education Authority be asked to provide a suitable venue for this course.
- that the above recommendations be implemented as soon as possible.

Arising from the discussions, the Sub-Committee wished to record their opinion that the time had come to reconsider drastically Marine Engineering Courses in general, coupling with this the suggestion that they could well be liberalized, extended in scope and made more truly educational; to this end, it was felt that a two-tier system for the training of marine engineers was worthy of serious consideration by the Ministry of Transport.

BRITISH STANDARDS INSTITUTION COMMITTEES

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

Four meetings have been held to discuss the preparation of a standard for the sampling of saturated steam. The Committee has found that the information available on the subject is too limited to warrant the publication of a British Standard, and is now working on a document which will be published by the British Standards Institution with the title "Recommendations for Estimating the Dryness of Saturated Steam".

C/37 Boiler Water Tests.

C/37/2 Methods of Sampling of Waters.

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

No meetings of the above Committees were held during 1961.

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

No meetings of this Committee were held during 1961. It is understood that this Committee will not meet again until

it is presented by some section of industry with a problem for consideration.

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

The revised edition of B.S. 2949 was issued in April 1960 and meetings have been held during 1961 to standardize on terminal markings.

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

Amendment No. 1 to B.S. 883: 1958 was published on 17th February 1961, and a Draft Amendment No. 2 has been under review.

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

British Standard 3387:1961 was published on 5th June 1961, for Butyl-Rubber-Insulated Cables and Cords with Heat-resisting Fibre Layer. This standard, together with B.S. 3249:1960 and B.S. 3258:1960 replaced parts of B.S. 1327:1946.

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

Eight meetings of the Committee have been held during 1961 when specifications have been considered for ceiling, table and pedestal fans.

Resulting from these meetings a final recommendation for specification was drafted to cover all three types of fans and this work terminated in an International Commission Meeting in Rouen in October when these specifications were considered.

General agreement seems to have been reached amongst the various countries' representatives and as a result of this the General Secretariat will issue a recommendation to the Committee of Action for circulation in the six months rule.

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

British Standard 3399:1961 Transformers for Use in Ships, was published on the 31st July 1961.

GLC/4 Observation and Gauge Glasses for Pressure Vessels. Representative: E. F. Barton.

There have been no meetings of this committee during the past year. The Draft British Standard prepared has been approved by the Glass Industry Standards Committee for publication and proofs have been submitted, so general publication should be effected during 1962. The first meeting of this committee was held in December 1956, and a further twenty meetings extending to November 1960 were necessary to prepare the final Draft.

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

The Committee is now awaiting the final Draft and it is anticipated that a further meeting will be held in the near future for the purpose of approving this.

INE/6 Pressure Gauges. Representative: R. A. Collacott, B.Sc., Ph.D.

No meetings of this Committee have been held during 1961.

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

No meetings of this Committee have been held during 1961.

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

No meetings of this Committee were held during 1961.

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

During 1961 one meeting of the above Committee was held on 16th March.

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ISE/6 Steel Castings. Representative: E. Burnett, M.B.E.
No meetings of this Committee were held during 1961, but a Draft Specification for Steel Castings for General Engineering purposes, received from the Indian Standards Institution has been circulated to members of the Committee for comment.

ISE/15 Iron and Steel for Shipbuilding. Representative: J. Turnbull, O.B.E.

As agreement could not be reached on certain amendments to B.S. 13 "Structural Steel for Shipbuilding" this standard has been withdrawn.

B.S. 14 Structural Steel for the Pressure Parts of Marine Boilers.

It has been decided that the British Standards dealing with steel for pressure vessels, irrespective of application, should be revised and issued as one comprehensive specification. This revision is being dealt with by a new Committee ISE/62.

B.S. 29 Carbon Steel Forgings for Ship and Marine Engine Purposes.

A Draft revision of this Standard is well advanced.

ISE/31 Wrought Steels.

ISE/31/1 Carbon Steels.

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

During 1961 joint meetings of the Technical Committee and Sub-Committees were held on 31st January, 27th June and 9th October; at the meetings of these Committees and the Iron and Steel Industries Committee the following work was completed:

New Standards published

B.S. 1501-6—Supplement No. 1 (1961) Carbon steel plates, sections and bars with certified proof stress at 250 deg. C. and over—B.S. 1501-159.

B.S. 3468—Austenitic cast iron.

Revised Standards published

B.S. 4—Structural steel sections. Part 1: Hot-rolled sections.

B.S. 15—Mild steel for general structural purposes.

B.S. 78—Cast iron spigot and socket pipes (vertically cast) and spigot and socket fittings. Part 1: Pipes.

B.S. 1121—Methods for the analysis of iron and steel. Part 20: Tin in iron and steel.

Part 37: Nickel in iron and steel and permanent magnet alloys.

B.S. 1452—Grey iron castings.

Amendment slips published

PD 4105 Amendment No. 1 to B.S. 1633—Steel for land boilers, receivers and other pressure vessels.

PD 4111 Amendment No. 1 to B.S. 1822—Nickel clad steel plate.

PD 4149 Amendment No. 1 to B.S. 1121—Methods for the analysis of iron and steel. Part 34: Determination of molybdenum in iron and steel (absorptiometric method).

PD 4178 Amendment No. 1 to B.S. 3278—General recommendations for the sampling of imported iron ores Part 1: Hammer and shovel method.

PD 4180 Amendment No. 1 to B.S. 1442—Galvanized mild steel wire for armouring cables.

PD 4323 Amendment No. 1 to B.S. 1441—Galvanized high tensile steel wire for armouring submarine cables.

PD 4390 Amendment No. 1 to B.S. 449—The use of structural steel in building. Addendum No. 1: Recommendations for design.

The following amendment slips are due to be published shortly.

PD — Amendment No. 4 to B.S. 970—Wrought steels.

PD — Amendment No. 2 to B.S. 309—Whiteheart malleable iron castings.

PD — Amendment No. 1 to B.S. 310—Blackheart malleable iron castings.

Standards withdrawn

B.S. 4A—Dimensions and properties of equal angles, unequal angles and T-bars for structural purposes. Supplement No. 1 to B.S. 4A—T-bars (universal, heavy flange and long stalk).

B.S. 4B—Broad flange beams, universal beams and column sections.

B.S. 6—Dimensions and properties of bulb angles and bulb plates for structural purposes.

B.S. 13—Structural steel for shipbuilding.

B.S. 32—Steel bars for the production of machined parts.

Comparison tables of British, American (S.A.E.) and German steels are being jointly prepared by the B.I.S.F. and the B.S.I. Part 1: "Wrought Carbon Steels" has already been published under B.S. 3179:Part 1:1959. It is hoped that Part 2: "Alloy Steels" will be published during the first half of 1962. Work is proceeding on the 3rd part covering steels generally specified by their mechanical properties.

Supplement No. 1 to B.S. 1501-6 "Steels for pressure vessels" has been published and contains two grades of carbon steel, Grade 1 conforming to the requirements of the international boiler code whilst Grade 2 is a higher quality of material. B.S. 1501-6 is being revised to cover steels in all forms suitable for fired and unfired pressure vessels and will incorporate materials which will meet the present requirements of B.S. 14 and B.S. 1633.

During the year an extensive revision of B.S. 970:1955 "Wrought Steels" initiated by the present needs of the steel industry has been undertaken and this work is still in hand.

The U.K. through the B.S.I. is actively participating in the work of the International Standards Organization (I.S.O.) with the purpose of co-ordinating steel industry standards within the framework of the Organization.

ISE/35/9 Austenitic Cast Irons. Representative: T. A. Rush.

Three meetings of the above Committee were held during 1961 and it was decided to formulate the new British Standard for austenitic cast irons in one part instead of three as originally proposed. A Draft Standard was drawn up during the year and following agreement was forwarded to the Industry Standards Committee for permission to publish.

ISE/62 Steels for Pressure Vessels.

Representative: W. R. Harvey, O.B.E.

A meeting of the Committee was held in November, 1961, to consider the issuing of a draft Specification for Carbon Steel Plates, Sections and Bars with certified proof stress at 250 deg. C. and over—B.S.1509-159. The draft Specification has since been approved for incorporation in B.S.1501-1506 and will be issued in due course.

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

During the period under review 34 standards were approved and issued, either as new or revised publications. These include the following of interest to marine engineers:

B.S. 3382—Screw Threads—Parts 1 and 2.

B.S. 3458—Chains and Fittings (Chain Slings, Alloy Steel).

B.S. 3469—Ball and Roller Bearings (Instrument Bearings).

B.S. 1123—(Revised) Valves, Gauges and other Safety Fittings for Air Receivers and Compressed Air Installations.

B.S. 427—(Revised) Mechanical Testing of Metals (Vickers Hardness Test Part 1).

B.S. 131—(Revised) Mechanical Testing of Materials (Izod Impact Test on Metals).

B.S. 2655—(Amendments) Lifts, Hoists and Escalators (Electric Lifts).

B.S. 871—(Revised) Abrasive Papers and Cloths (Abrasive Papers and Cloths for General Purposes).

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- B.S. 3410—Bright Bolts and Nuts (Washers for General Engineering Purposes).
- B.S. 3243—Lifting blocks (Hand-operated Chain Pulley Blocks).
- B.S. 1134—(Revised) Surface Measurement (Assessment of Surface Texture—Centre-line Average Height Method).
- B.S. 2634—(Revised) Surface Measurement (Roughness Comparison Specimens. Ground Flat and Cylindrical Types.)
- B.S. 498—(Revised) Files (Rasps and Engineers' Files).
- B.S. 1440—(Revised) V-belts and Pulleys (Endless V-belts).
- B.S. 3464—Valves for Gas, Water and Steam (Cast iron gate valves for general purposes).
- B.S. 3459 and B.S. 3437—Drawing Office Equipment and Materials (Drawing Office Furniture).
- B.S. 3429—Drawing Office Equipment and Materials (Sizes of Drawing Sheets).
- B.S. 1342—(Revised) Drawing Office Equipment (Detail Paper).
- B.S. 1486—(Revised) Lubricating nipples used for Grease Lubrication in Machinery and Vehicles. (Lubricating Nipples.)
- B.S. 1806—(Revised) Fluid Seal Housing (Toroidal Sealing Rings).
- B.S. 3439—Engineering Pipe Fittings (Austenitic Compression Fittings).
- B.S. 365—(Revised) I.C. Engines Spark Ignition Type.
- B.S. 3401—Spring Washers (Beryllium copper crinkle washers).
- B.S. 3386—Internal Combustion Engine Components (Cylinder bore sizes for internal combustion engines).
- B.S. 3409—Wire Thread Inserts (Tapping of holes for wire thread inserts).

MEE/6/19 Gear Hobbing Machines.

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

During the year 1961 Sub-Committee MEE/6/19 was engaged upon the revision of B.S. 1807 and B.S. 1498:1954 including the preparation of a new Standard "Hobbing Machines for General Purposes". Sub-Committee MEE/17/7 met once during 1961 to consider whether a British Standard on "Gear Loading" should be prepared. As a result of this meeting the recommendation was made that such a Standard was desirable and should be drafted as Part 3 of B.S. 1807. This recommendation must be approved by Committee MEE/17 before the Sub-Committee is able to commence. In order to strengthen the marine influence it was decided to nominate Mr. S. Archer, M.Sc., Mr. I. T. Young and Mr. J. Rogerson.

With regard to the revision of B.S. 1498:1954 and B.S. 1807 Part 1:1952, a Draft of the proposed amendments covering both Standards, was circulated for comment and is now almost ready for final issue.

Preparation of a Draft British Standard Specification for Hobbing Machines for General Purposes was completed early in 1961 and copies were circulated to the industry for comments.

This Standard has been prepared at the request of the Admiralty and members of the Automobile Industry. It was requested that the layout should be simple, as the machines to which it refers are generally employed in mass production and jobbing work and are not normally subjected to the inspection techniques employed for special purpose machines. This British Standard is now nearing completion.

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

No meetings of this Committee have been held during 1961.

MEE/13 Engine Testing Fittings. Representative: J. Calderwood, M.Sc.

During the year the Standard for fittings for cylinder pressure indicators for reciprocating engines, B.S. 412:1961, was published.

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

Revised B.S. 487—Welded Air Receivers.

Part 1: For pressures not exceeding 500lb./sq. in.—Issued.

Part 2: For pressures exceeding 500lb./sq. in.—Issued in Draft form for comment by industry.

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

No meetings of this Committee have been held during 1961.

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

The Committee met on one occasion and it was agreed to modify B.S. 537, B.S. 609, B.S. 665, B.S. 761 and B.S. 931 in respect of restrictions on the use of lap riveted longitudinal seams. The Committee also decided to modify B.S. 2790 in respect of requirements for radiographic examination. The modifications were incorporated in Amendment Slips which were published in April 1961.

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

Several meetings of the drafting panel of this Committee were held and the work was mainly concerned with consideration of various proposed amendments to B.S. 1113:1958 Water Tube Boilers and their Integral Superheaters. The Committee propose that a further Amendment Slip to this Specification should be issued but it may be some time before this is completed.

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

No meetings of the above Committee were held during 1961.

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

The drafting panel of this Committee met on several occasions during 1961 to continue with the revision of B.S. 806:1954 "Ferrous Pipes and Piping Installations for and in Connexion with Land Boilers". The Committee appreciate that there is still much work to be done before completing the revision of the Specification and it is possible that a further Amendment Slip to the present Specification may be issued before the revised Specification is printed.

MEE/34/9 Boiler and Superheater Tubes. Representative: J. Liddell, B.Sc.

No meetings of the above Committee were held during 1961.

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

No meetings of this Committee were held during the past year.

MEE/39 Compressors, Exhausters and Fans. Representative: S. J. Jones, B.Sc.

No meetings of the above Committee have been held during 1961.

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

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

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

The Draft Revision has now been circulated to all members of the Committee.

Annual Report of the Council for 1961

MEE/81 Valves for Gas, Water and Steam. Representative:

A. Logan, O.B.E.

No meetings of the above Committee were held during 1961.

MEE/81/3 General Purpose Valves. Representative: A. Logan, O.B.E.

Sub-Committee MEE/81/3 "Gate Valves for General Purposes". The Committee met three times during the year to consider further draft Standards for "Cast Iron Gate Valves for General Purposes". Some interesting points discussed and decisions reached were: Not to include drawings of valves in the draft British Standard due to multiplicity of drawings, tying in of test pressures to service ratings, testing of valves in general. Proposal to review the pressure/temperature rating tables.

Work continues on the Standard.

MEE/91 Jointing Materials and Compounds. Representative:

Lieut. Cdr. A. P. Monk, D.S.C., R.N.

There were no meetings of the above Committee during the year 1961.

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

The draft of B.S.1468:1961, Part 2—Heavy Duty Lubricating Nipples, was circulated to industry, and subsequently finalized and published in December, 1961. This was the only development in 1961 and a meeting of the Committee will take place in April, 1962, to review a new project.

MEE/123 Diesel and Gas Engines. Representative: A. Logan, O.B.E.

No meetings of the above Committee were held during 1961.

MEE/158 Mechanical Balancing of Rotating Machinery.

Representative: S. Archer, M.Sc.

The above Committee met twice during 1961 and considered various documents relating to terminology, testing machines, marine and other applications.

It has been agreed to participate in international (I.S.O.) standards of balancing.

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

The above Committee met five times during 1961 and a preliminary draft standard has been prepared which is in course of review.

NFE/27/3 White Metal Bearing Alloys and Tin Base Die Casting Alloys. Representative: N. Macleod.

The work of this Committee was completed with the publication early in 1961 of B.S. 3332 entitled Specification for "White Bearing Alloy Ingots".

P/139 Prevention of Corrosion.

Representative: F. M. Paskins, O.B.E.

The revision of B.S.1133:1953, Section 6 is being undertaken progressively and, although the work is slow, it is anticipated that it will be completed within the next few months.

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

There have been no meetings of this Committee during 1961.

USM/2/5 Thermodynamics. Representative: C. H. Taylor-Cook, B.Sc.(Eng.).

As the revised British Standard has now been printed and published, this Committee has now been dissolved.

Minutes of Proceedings of the Seventy-third Annual General Meeting

17th April 1962

The 73rd Annual General Meeting of the Institute was held in the Memorial Building, 76 Mark Lane, London, E.C.3, on Tuesday, 17th April 1962, at 5.30 p.m.

The President, Mr. C. C. Pounder, occupied the Chair.

The CHAIRMAN reminded those present that members whose subscriptions were not up-to-date were not entitled to vote on any resolution at the meeting. He did not propose to take the extreme step of asking any such members to withdraw but he would ask them to refrain from voting.

He extended a welcome to Captain G. I. D. Hutcheson, C.B.E., B.E., R.A.N., Vice-President for Australia.

The Minutes of the preceding Annual General Meeting were taken as read, having been published in the TRANSACTIONS for June 1961, and were confirmed and signed.

Introductory remarks by the Chairman

The CHAIRMAN said he assumed that a brief account of his activities, as President of the Institute, was required of him. No engineer could ever feel satisfied with his efforts, when viewed in retrospect. He must always feel that his endeavours should have been more intensive and his achievements more practical. However that may be, since the previous October he had visited as many branches and participated in as many functions as possible. In the process he had been to Glasgow, Newcastle upon Tyne, Kingston upon Hull, the North Midlands, and so on. For a number of the meetings it had been necessary to prepare appropriate papers. Thus it had been his privilege to deliver a lecture in the South Shields Marine College as part of the centenary celebrations. On another occasion at Poplar Technical College, with over 400 people present, he had had the heartwarming experience of presenting prizes and certificates to more than 250 young people.

What had been more important to him personally had been attendance at functions held by the great technical institutions and learned societies. As it had been physically impossible for him to accept other than a fraction of the invitations received, his ultimate choice had been determined by the likelihood of being able to uphold the standing of the Institute. Accordingly he had attended such functions as the Conversaciones of the Royal Society and of the Institution of Civil Engineers. He had been present at the annual dinners of the Institutions of Mechanical Engineers, Electrical Engineers, Civil Engineers, the Royal Institution of Naval Architects; and so on. There had also been the more intimate occasions such as that afforded by attendance at the Annual Dinner of the North East Coast Institution of Engineers and Ship-builders. He was a member in his own right of all but one of the bodies named but it was as President of the Institute that he was present. Everywhere he had been remarkably well received.

It was not generally appreciated that the Institute was

the fourth largest engineering institution in the country. In saying that, he was not unmindful of the fact that there was a considerable gap between it and the one next above it in terms of numbers.

When he had had to choose between a technical meeting and a social gathering, he had always accepted the invitation to the technical meeting; but that was simply a personal idiosyncrasy.

Examination of Voting Papers

On the invitation of the CHAIRMAN, the scrutineers retired to examine the voting papers.

Presentation of Annual Report

The Secretary (Mr. J. Stuart Robinson, M.A.) presented the Annual Report of the Council for 1961.

Presentation of Annual Financial Statement by the Honorary Treasurer

The HONORARY TREASURER (Mr. J. Calderwood, M.Sc.) in presenting his Report, said that although the position looked very sound, he had to draw attention to the fact that in the Revenue Account costs were still going up very steadily every year. The major item of additional costs had been the TRANSACTIONS, and he was very much afraid that the Institute would have to face a further increase in printing costs. Therefore, while the Institute had a reasonable surplus for the year, he very much doubted whether it would have a surplus at all next year on the General Revenue Account.

One point should be noted. The administration, salaries and pensions figure appeared to have taken a big rise between 1960 and 1961. That was largely due to the fact that the Institute was short staffed in certain sections and that it had lost one or two relatively senior people and it was impossible to get replacements for them at the salaries which had been paid previously. He did not think that the same rise would occur next year, but there would certainly be a big increase in the cost of the TRANSACTIONS.

With regard to the Building Fund, it had been suggested that the Institute was extremely well off. It was. Suggestions had been put to him that the Building Fund should be used for the benefit of members. It had always been the policy of the Council since the building was occupied that surpluses on the Building Fund should be used for special purposes. For instance, the cost of the forthcoming conference would come largely from the Building Fund. It was hoped to build up a sufficient fund over the years to meet such schemes as the Education Scheme or some other useful objective of general interest and value to the profession. Although the sums looked large, he drew attention to the fact that if the whole of the Building Fund surplus was put into the General Account, it amounted to less than 30 per cent of the members' sub-

Minutes of Proceedings of the Annual General Meeting

scriptions. He mentioned that to put the matter in the right perspective. Some people thought that the Institute was enormously wealthy. It was financially sound, but it was not as well off as some people thought.

Adoption of Annual Report and Accounts

MR. E. R. CHAMBERLAIN (Member), moving the adoption of the Annual Report and Accounts, said that the Institute went from strength to strength. Even in the present difficult days through which the shipping industry was passing, there was no reflection of that temporary setback to the activities of the Institute. The mood was one of continual expansion. The chart of membership continued to rise, and as a member of the Membership Committee, he knew only too well from personal experience the large number of applicants wishing to join the Institute, but they were not all admitted. Noting the rising membership, some might feel that, with all the extensions overseas, applicants could be coming in who were not suitable, but he could assure members that he likened Mr. Longmuir, the Chairman of the Membership Committee, to a watchdog who stood on the threshold of the Institute to make sure that no one entered who had not the necessary qualifications. He felt that that was one of the reasons why they maintained such a very high standard of membership and contributed in no small measure to the success of the Institute.

He referred to the expansion of the Institute's activities abroad, mentioning particularly the continued growth of the Canadian Division and the development in India, and said that great credit was due to the Chairman of Council, Mr. Ingamells, and also to the Secretary for the work which they had done in co-ordinating that development.

It was also very gratifying to know that the Institutions of Civil, Electrical and Mechanical Engineers had extended an invitation to the Institute to join the Overseas Joint Group Organization. This would keep the flag of our Institute flying in areas where no section could be formed in the foreseeable future. Members would be very pleased to know of the activities in the nuclear energy field, because they would all agree that the day would come when ships would be nuclear powered, and, naturally, they wanted to be in the forefront of that development.

The Balance Sheet showed that the finances of the Institute continued to be sound, despite the little warning given by the Honorary Treasurer—but he was indeed a very cautious man and wanted to make sure that they thoroughly understood what they were looking at. At all events, the finances were in very good hands. The fact that we had been able to invest a further £19,459 during the year showed that the Institute was more than solvent.

All were aware of increased costs these days. Whilst the administration charges had risen by £2,778, he believed that it was money well spent because they were getting a good return for their outlay. There had been increased cost in producing the TRANSACTIONS and a decrease in advertising revenue, but he suggested that in no circumstances should the TRANSACTIONS be cheapened because they were a feature of the Institute and the admiration of many other Institutions. He believed that many younger members joined because they liked the TRANSACTIONS and the interesting technical papers they contained. Rather than reduce the quality of the publication, there should be a very special effort to increase the number of advertisers, some of whom appeared to be falling by the wayside.

The acceptance by His Royal Highness The Prince Philip of the Council's invitation to him to become President for 1962/63 was yet another instance of the high place the Institute held in the field of engineering, and the Council was to be congratulated upon these arrangements.

He paid tribute to the work of the Secretary and his staff, stating that they did a very fine job for the members. He welcomed the introduction of a length of service bonus, which he thought would be very worthwhile. When one had good staff, they were worth encouraging.

MR. J. G. ROBINSON (Member) formally seconded the motion.

The Annual Report and Accounts were adopted.

Presentation of Awards for 1961 by the Chairman

The CHAIRMAN then presented the following awards: *Denny Gold Medal and Akroyd Stuart Award, 1960/61* to Mr. P. Jackson, M.Sc. (Member of Council) for his paper entitled "The Future Doxford Marine Oil Engine".

The Institute Silver Medal: to Mr. J. M. Murray, M.B.E., B.Sc. and Mr. H. N. Pemberton, for their paper entitled "Lloyd's Register of Shipping Rules and Nuclear Ships".

The CHAIRMAN said that so far as he knew on only one previous occasion had the Denny Gold Medal and the Akroyd Stuart Award been won by the same man. The last time was shortly before the war, and the recipient was himself. Consequently, it gave him the greatest possible pleasure to think that it was at his hands that Mr. Jackson received his award.

He added that other recipients of awards who were unable to be present would have their prizes forwarded to them in due course.

Report of the Scrutineers—Election of President and Vice-Presidents

The CHAIRMAN announced that as a result of the scrutiny of the votes, His Royal Highness The Prince Philip, Duke of Edinburgh, had been elected President for the ensuing year.

As Vice-Presidents in the United Kingdom the following had been elected:

Vice-Presidents:

United Kingdom: A. Logan, O.B.E.
D. W. Low, O.B.E.
T. McLaren, B.Sc.
D. Skae
J. Turnbull, O.B.E.

Canada: Rear-Admiral J. B. Caldwell, M.B.E.,
C.D., R.C.N.

India: Rear-Admiral T. B. Bose, B.Sc., I.N.

Members of Council: R. Cook, M.Sc.
W. R. Harvey, O.B.E.
T. E. Jones
J. G. Robinson
A. H. Wilson

Associate Member of Council: S. G. Christensen.

Vote of Thanks to Scrutineers and re-appointment for 1962/63

MR. W. R. HARVEY, O.B.E., (Member of Council) proposed a vote of thanks to the scrutineers. He described them as the backroom boys of the meeting and said that they performed a very essential service and the members were grateful to them for it. Coupled with the vote of thanks, he proposed that they be re-appointed for the year 1962/63.

The vote of thanks was carried with acclamation.

The re-election of scrutineers was *carried unanimously*.

Vote of Thanks to the President

MR. B. P. INGAMELLS, C.B.E. (Chairman of Council), said that it was with very great pleasure that he proposed a vote of thanks to the President. Mr. Pounder would have had a particularly strenuous year in more ways than one even if he had not been the Institute's President. Nevertheless, he had discharged his duties as well as he possibly could and better than most could have done. The Chairman of Council worked very closely with the President, and in addition, he had known Mr. Pounder for many years. He had got to know Mr. Pounder very closely after the war, particularly during the steel control days, and he had found him exceptionally fair and understanding but quite determined in his own way to see that his rights were recognized and granted.

Minutes of Proceedings of the Annual General Meeting

The Institute had been extremely fortunate in having a man of such engineering ability to lead it. It had added greatly to the prestige of the Institute generally, not only in the United Kingdom but throughout the world. After all, Mr. Pounder's name was a world wide one and was not confined merely to Belfast.

It gave him the greatest pleasure to propose a vote of thanks to Mr. Pounder. He had had a very heavy burden, but he had not shirked it, nor had he missed a single point throughout the year.

VICE-ADMIRAL SIR FRANK MASON, K.C.B., (Vice-Chairman of Council), in seconding, said that he had not met Mr. Pounder until very late. The reason was that for a great deal of his life he had been mixed up with gun mountings and so on, which had not brought him into contact with Mr. Pounder. Nevertheless, he welcomed the opportunity of saying publicly how grateful he was to Mr. Pounder for his kindness. Mr. Pounder had been very kind and helpful when he had entered another sphere of activity dealing with marine engineering.

The vote of thanks was carried with acclamation.

The PRESIDENT expressed his thanks for what had been said.

Vote of thanks to the Council and Officers

MR. E. G. HUTCHINGS, B.Sc. (Member) said that he was honoured and delighted to have the opportunity to propose the vote of thanks to the Council and the staff of the Institute for their work on behalf of the members.

He said that in recent years he had on several occasions been privileged to have a small insight into the varied problems which beset the Council. Those problems had been made all the more difficult in the current year by the International Conference, which was a most difficult and complex one to organize, but he was sure that the efforts of the Council would provide them with a most successful occasion. What might sometimes not be fully appreciated was the vast amount of time which the worthy gentlemen concerned contributed to the Institute. Their discussions and their decisions affected all the members, because it was upon the results of the efforts of the members of Council that both the prestige and the financial stability of the Institute depended. The technical value of the Institute to its members was also significantly influenced by the decisions of the Council.

Despite that, however, the efforts of the Council would be of little value if it were not for the enthusiasm and industry of the staff in implementing the wishes of the Council and controlling the day to day affairs of the Institute. He made special reference to the excellent work of Mr. Robinson as Secretary.

He was sure that all those present would join him in the vote of thanks to the Council and the Officers of the Institute for their foresight and initiative in organizing the International Conference and for their many efforts which played a major part in making the Institute of Marine

Engineers one of the leading professional engineering bodies in the world.

COMMANDER H. T. MEADOWS, D.S.C., R.D., R.N.R. (Member), in seconding the vote of thanks, said that to the other qualities desirable for members of Council it would seem that "bravery" should be added, because they must indeed be a brave as well as a clever body of men to have at last commenced the battle for increasing the status of the marine engineer and all that that entailed. They deserved a vote of thanks for that alone, quite apart from all their other efforts on behalf of the Institute. It was wonderful to know that they had a Council which, while changing its membership, did not shirk or shelve difficult subjects, but was a Council which continued to thrust ahead.

The time was also opportune to thank the Officers of the Institute for their ability, efficiency, courtesy and loyalty and all their efforts on behalf of the members during the year. The team which Mr. Robinson led was well able to implement the decisions of the Council. It was with the greatest pleasure that he seconded the motion.

The vote of thanks was carried with acclamation.

Reply by the Chairman of Council

MR. B. P. INGAMILLS, C.B.E. (Chairman of Council) expressed thanks on behalf of the Council and the staff. He said that the attendances at the Council over the last twelve months had always been very good, sometimes reaching 30, which showed the keenness of the Council members. The meetings took the time of men who were working, and a number of members came to the meetings from the North-East coast, Glasgow and the Mersey. That was the sort of devotion to duty which was appreciated by the members.

He also thanked the meeting on behalf of Mr. Stuart Robinson and his staff. The loyalty of the staff was of very great value to the Institute.

Closing Remarks by the Chairman

The CHAIRMAN said that, in his personal and private capacity, he thanked the Secretary, Mr. J. Stuart Robinson, for his unfailing help at all times. His thanks extended also to Mr. Franklin, the Assistant Secretary; to Mrs. Sullivan, that incomparable jewel of an assistant; to Miss Mills; to Miss Pinder, for her patient tolerance of him in all matters editorial; and to the other members of the staff, whose names he did not know, but whose assistance was always to hand.

He stressed the need to make the International Conference a resounding success. There had been moments of doubt and apprehension, as he well knew, but he was now certain that it would prove to have been abundantly worthwhile.

His term of office was now ended and the titular head of the Institute from that moment was H.R.H. The Prince Philip, Duke of Edinburgh. He suggested that immediately after the meeting a telegram, in suitable felicitous terms, should be sent to His Royal Highness. The Chairman of Council and the Secretary would determine its form. (*Agreed.*)

There being no further business, the Chairman declared the meeting closed.

Twenty-second Annual General Meeting of the Education Group

Tuesday, 20th March 1962

The Twenty-second Annual General Meeting of the Education Group of the Institute was held on Tuesday, 20th March 1962. The Chair was occupied by Mr. J. McAfee, Chairman of the Group.

The Minutes of the preceding Annual General Meeting, which had been circulated, were confirmed and were signed by the Chairman.

Annual Report

The CHAIRMAN reported that in June last year it had been agreed to convene that day's meeting of headmasters.

At the same meeting it had been agreed that the Technicians' Course at the Singapore Polytechnic should be considered to have satisfied the requirements for student membership. He was gratified to think that there was this tenuous link with the Far East. It was almost mundane to see that the next item which was recorded referred to the Scottish Leaving Certificate.

Two things had occupied the Committee quite a lot during the year. They had been asked by the Council to consider what the final analysis boiled down to with regard to sponsoring a college for the training of marine engineers. The matter had crept into some of the remarks of the headmasters and career masters at that day's meeting. One of them had asked him why they did not have such a college. He thought it was rather pertinent that a complete outsider should place his finger on this gap in the structure of marine engineering education. At the meeting when the matter had been discussed, there had been a great variety of opinions expressed. It seemed that some people were concerned solely with the staffing of marine engine rooms; some had their heads in the clouds; and somewhere between those two extremes it was clear that there was a large measure of support for such an idea, and if the marine engineering in industry in this country was going to prosper, such a college must some day be constructed, possibly on naval lines. It would need the support of government and of shipping companies, and also commonwealth governments. It was a very big scheme. The matter had been referred back to the Council, and from there it had gone to the General Purposes Committee, and it was still under consideration. He hoped by the same time next year there would be some concrete proposals.

The other thing referred to them by the Council was the regulations governing the Ordinary National Diploma. Regrettably, the Institute played no part whatsoever in controlling, guiding, or in any way determining those regulations, which were administered by the Joint Committee; they played no part in that Committee. It transpired that some 75 per cent of the candidates who sat for the Ordinary National Diploma were there by virtue of their being in the Alternative Training Scheme, and those 75 per cent were largely successful. The remaining 25 per cent came from industry, and were largely unsuccessful. Because of that, the Joint Committee proposed to amend the entrance qualifications before one could undertake the Ordinary National Diploma course. It

was going to be loaded, not because of any defect in the marine side, but because of what was happening in industry, and they were going to have no say in the matter, and that was a shocking situation. They had expressed their view to the Council, and had submitted that an *ad hoc* committee should be formed to deal with the problem. They were fortunate in that the various people who had been suggested had accepted, including one who happened to be not only an Associate Member of the Institute, but Chief Inspector of Education. They felt they had "good ammunition".

There had been the conference of headmasters and career masters, and he hoped they had sown a few seeds that would come back to them in years to come.

Election of Chairman

The CHAIRMAN announced that the Executive Committee had nominated Mr. P. J. Howard, B.Sc. as Chairman for the ensuing session.

There being no further nominations, the Chairman declared Mr. Howard duly elected.

Election of Vice-Chairman

The CHAIRMAN announced that the Executive Committee had nominated Mr. S. Hogg, O.B.E., as Vice-Chairman for the ensuing session.

There being no further nominations, the Chairman declared Mr. Hogg duly elected.

Election of Members of the Executive Committee

The CHAIRMAN said that the Committee recommended that the retiring Chairman should continue to serve in a co-opted capacity for a further year.

The recommendation was adopted.

The CHAIRMAN announced that the Executive Committee had nominated Mr. D. M. Reid, Mr. C. W. Tonkin, B.Sc., Mr. A. H. Wilson, and Mr. A. W. Bell, B.Sc. to fill vacancies on the Committee caused by retirements.

There being no further nominations, the Chairman declared them duly elected.

Other Business

The SECRETARY said that two members of the Examination Sub-Committee were retiring, Mr. Hogg and Mr. Taylor-Cook, and it would save holding a special meeting if two members could be elected.

The CHAIRMAN said the Committee themselves should decide on somebody.

It was agreed that the matter be arranged with the Secretary.

Date of next Annual General Meeting

It was agreed that the next Annual General Meeting should be held on Tuesday, 19th March 1963.

That concluded the formal business of the meeting.