

The Royal Institution of Naval Architects



2015 Annual Report and Financial Statements for the year ending 30 September 2015

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Royal Institution of Naval Architects

2015 ANNUAL REPORT

OBJECTS OF THE INSTITUTION

The Objects of The Royal Institution of Naval Architects are as set out in the Charter of Incorporation 1910 - 'the improvement of ships and all that specially appertains to them, and the arrangement of periodic meetings for the purpose of discussing practical and scientific subjects bearing upon the design and construction of ships and their means of propulsion, and all that relates thereto'.

Today, reflecting the wider range of activities of the Institution, the Objects of the Institution are more aptly described as "to promote and facilitate the exchange and discussion of technical and scientific information relating to and leading to improvements in the design, construction, maintenance and operation of marine vessels and structures."

These Objects are primarily achieved by:

- The setting of standards of professional competence and integrity required for membership.
- The encouraging of membership of the Institution at all levels
- The promotion and facilitation of the exchange of technical information through the Institution's publications, conferences and local meetings, which are open to all those involved in the design, construction and maintenance of marine vessels and structures.
- The contribution of its collective expertise to national and international maritime organisations.

The Institution's specific objects in 2015 have been to increase the internationalism of the Institution in both its membership and its activities, to encourage the younger members of the profession to become involved in the activities of the Institution, and to strengthen its links with industry. These remain the Institution's specific objects for the forthcoming year.

ACTIVITIES, ACHIEVEMENTS AND PERFORMANCE

The Institution organised 24 courses and conferences, covering the full spectrum of maritime technology and ranging from one-day seminars to major 3-day conferences. Throughout the year, the Institution published 9 journal titles, reporting on developments in the maritime industry and the results of research and development. Conferences and publications have also contributed to the Institution's income. The Institution's local branches have held regular meetings to present and discuss matters of professional interest. The Institution's conferences, publications and local meetings are available to both members and non-members.

The Institution also contributed its collective expertise to national and international organisations, particularly concerned with maritime safety and the protection of the maritime environment.

The Institution recognised and encouraged the achievement of individuals at all stages of professional development through its prizes and awards.

During the year, the Institution achieved its programme of planned activities in full, and increased their availability to both members and non-members. Feedback on its activities confirmed that the Institution was maintaining the high standard and value of its conferences, publications etc., and meeting its objectives.

Future Plans

In the forthcoming year, the Institution intends to maintain its programme of courses, conferences and local meetings, reflecting developments in the design, construction and maintenance of marine vessels and structures, and to continue contributing its collective expertise to appropriate national and international organisations.

BOARD OF TRUSTEES

The Royal Institution of Naval Architects, also known as "RINA", is a registered charity (number 211161) incorporated under Royal Charter. The Board of Trustees is the governing body of the Institution. The Trustees are appointed by Council.

The Board of Trustees is responsible for the governance and management of the Institution. Responsibility for the day to day management of the Institution's affairs is delegated to the Chief Executive, accountable through the Chairman to the Board of Trustees. All Trustees are provided with guidance documentation issued by the Charity Commission concerning their responsibilities.

The members of the Board of Trustees confirm they have complied with the duty in section 17 of the Charities Act 2011 to have due regard to public benefit guidance published by the Charity Commission. In particular, the Institution has acted as a Licensed Member of the UK Engineering Council in promoting higher education and professional standards, and as an NGO of the International Maritime Organisation in improving maritime safety and the protection of the maritime environment. It has also contributed its collective expertise to other appropriate maritime organisations.

Board of Trustees (at 31 December 2015)

The following were appointed by Council to the Board of Trustees:

Chairman
B R Rosenblatt

Vice Chairman
N Pattison

Treasurer
J Frier

Trustees

D J Andrews	R Gehling	F H Spencer
C Cooper	A King	P Wrobel
J De Rose	A Pattison	A J Marsh

The Board of Trustees met five times in the year, during which its principal considerations were the policy, management and review of the Institution's investments, the management and review of the Risk Register, and a review of the Institution's internal financial and administrative procedures.

COUNCIL

The Council is elected by the members. It is responsible for the appointment of the Board of Trustees, communicating the views of the Institution's membership to the Board and providing guidance and advice to the Board of Trustees on all matters related to the governance of the Institution.

The Council holds delegated authority from the Board of Trustees for the management of the professional, technical and learned society affairs of the Institution. Such delegated authority is principally exercised through the Institution's standing committees and the Chief Executive.

Council and Officers of the Institution

(at 31 December 2015)

President

2014- Mr Bruce S. Rosenblatt

Past Presidents

1984-1987 Professor John B Caldwell OBE PhD DSc FREng
1993-1996 Dr Peter J Usher CBE DSc RCNC FREng
1996-1999 Sir John Parker FREng
2002-2004 Professor W Geraint Price FREng FRS
2004-2007 Dr Nigel Gee DEng BSc FREng
2007-2010 Stephen Payne OBE HonPhD (Sc) BEng FREng
2010-2014 Peter French FRINA FREng FRSA

Date elected

Date elected

Honorary Vice Presidents

1972 Sir Eric G Yarrow BT MBE 2004 E C Tupper

Vice Presidents

2014 A Marsh 2014 T Allan

Fellows

2012 S C Rusling	2013 D Vassalos
2012 J C Hudson	2013 A G Blyth
2012 R C Gehling	2014 R Curry
2013 W D Everard	2014 J De Rose
2013 M d'Amico	2014 R A Sheno
2013 IKAP Utama	2014 P G Wrobel
2013 K Tikka	2014 R Pudduck
2013 D J Andrews	2015 J Frier
2013 J K Paik	2015 A Subahani
2013 M R Palomares	

Members

2013 A D King	2014 S E M Watts
2013 I D Grant	2014 P B L Coley
2013 B Lau	2014 C L Savage
2013 R Hindley	2014 R D Smart
2013 C Hadjichristou	2014 D V Whittaker
2013 P Gualeni	2014 M A Brooking
2013 A Pattison	2015 W Kelly
	2015 D Viner

Associates

2013 N Desty 2014 G Smyth

Associate-Members

2015 C Cooper

President of the Australian Division

2014 Dr Tony Armstrong +

President of the New Zealand Division

2013 Ted Ewbank +

Chairmen of Standing Committees

N Pattison (Publications Committee) +
R Cripps (Small Craft Committee) +
F H Spencer (Disciplinary Committee) +
J Kecsmar (High Speed Vessels) +
J De Rose (IMO)
S Watts (Safety Committee)
Y Sarac-Williams (Membership Committee) +
R Daniel (Professional Affairs Committee) +

+ Ex officio members

Chief Executive

T Blakeley

Solicitors

Messrs Taylor, Joyson Garret & Co.

Auditors

Haysmacintyre

Bankers

The Royal Bank of Scotland

Investment Advisors

M&G Investment Management Ltd

President

Board and Council record their grateful thanks to Mr Bruce Rosenblatt for the considerable service he has rendered to the Institution as its President and as ex officio Chairman of the Board of Trustees during the year.

Staff

The Board and Council record their grateful records its thanks to the Chief Executive and the Secretariat staff for their dedication to the work of the Institution during the year.

STANDING COMMITTEES

The Council thanks the chairmen and members of the Institution's standing committees for the time and effort which they devote to the work of the Institution.

During the year, the Council instituted a review of the Technical Committees Structure, to be completed in 2016.

Membership Committee

The Committee met five times during the year to consider applications for membership and registration with the Engineering Council UK. A number of new members joined the Committee during the year.

The total membership at the end of 2015 was 10,401, which represents an overall rise of 3% compared with 2014. There was again an increase in the number of Student Members and Associate Members in 2015, reflecting the Institution's continuing priority of engaging with the younger members of the profession and industry.

Disciplinary Committee

No allegations of improper professional conduct by members were received.

IMO Committee

The Committee met three times in 2015, and continued to liaise with the Institution's Naval Architectural Group. During the year, members of the Committee represented the Institution at all major IMO Committees, Sub-Committees and working groups, and participated in many inter-sessional activities as listed below. Members of the committee also participated in 13 Correspondence Groups.

The Committee brought itself closer to the Safety Committee in all their activities by seconding the Vice Chairman of IMO committee onto the Safety Committee, and inviting the Chairman or Vice Chairman of the Safety Committee to attend all the IMO Committee meetings.

Members of the Committee contributed in excess of 230 days in representing the Institution at the following IMO Committees and Sub-Committees in 2015, details of which can be found on the Institution's website.

Ship Design and Construction (SDC) 2

The Institution submitted a paper on Special Category Spaces (SCS) under SOLAS Regulation II-1/7.2.3. It was felt that they had not been sufficiently considered. The sub-committee decided that the matter has been resolved and that any SCS will be considered a ro-ro space for stability purposes. Other matters considered were:-

- Residual strength calculations
- Water tightness of hatches which become immersed after damage.
- Double hulls in way of main engine-rooms on passenger ships.
- Damage control drills for passenger ships
- Survivability of passenger ships.
- Guidelines on safe return to port for passenger ships.

- Second generation intact stability criteria. (CG)
- Amendments to the criterion for maximum angle of heel in turns of the 2008 IS Code.
- Towing, lifting and anchor handling operations. (CG)
- Testing arrangements for watertight compartments. (CG)
- Implementation of the 1969 TM convention.
- Guidelines for use of FRP in ship structures. (CG)
- Evacuation analysis mandatory for new passenger ships.
- Interpretation of SOLAS II-2/13.6 on means of escape from ro-ro cargo spaces.
- Review of passenger ship watertight doors.
- Damage control drills for passenger ships.
- OSV Chemical Code on ship survival capability and location of cargo tanks.

A Correspondence Group (CG) on Subdivision and Damage Stability covers a number of these subjects and the Institution is a member of it. The Institution is also represented at other CG's referred to above.

Ship systems and equipment (SSE) 2

The following matters were considered by the sub-committee:-

- Smoke Control and ventilation.
- Amendments on air quality of closed vehicle spaces, and closed ro-ro spaces.
- Safety performance criteria for arrangements for fire safety (CG)
- New framework of requirements for life-saving appliances. (CG)
- Measures for onboard lifting appliances and winches. (CG)
- Unified interpretation of provisions of IMO conventions.
- Review the MODU Code, LSA Code and MSC.1/Circ.1206/Rev.1.
- Amendments to the Guidelines dynamic positioning (DP) systems.

The Institution is a member of another CG on Fire Protection covering some of the items above. The Institution is also represented at other CG's referred to above.

Marine Environmental Protection Committee (MEPC)68

The following matters were considered by the Committee:

Ballast water management

Administrations are very close to achieving the required tonnage in order to have the convention enter into force. Until it is there can be no amendments made, which is becoming quite urgent. Exemptions will have to be implemented for those ships which have already installed systems in accordance with existing guidelines.

Air pollution and Energy efficiency

- Black Carbon.
- EEDI
- Propulsion power (minimum power requirements)
- Sulphur Monitoring
- NOx Technical Code 2008
- MAROL Annex VI requirements to dual fuel and gas fuelled engines
- Fuel oil availability study
- Energy efficiency

- Reduction of GHG Emissions from Ships
- Reducing GHG emissions.

Polar Code

The Polar International Code for Ships operating in Polar Waters will be adopted in July 2016 and enter into force on 1 January 2017.

The *Guidance/Guidelines on methodologies for assessing operational capabilities and limitations in ice* are to be finalised (This matter will now be dealt with by MSC).

Maritime Safety committee (MSC) 95

The following matters were considered by the committee:-

- IGC and IGF Codes predominantly concerned with the use of gas and low FP fuels.
- GBS and the Safety Level Approach.
- Passenger Ship Safety
- Formal Safety Assessment
- All matters associated with the SDC and SSE sub-committees.

Implementation of IMO Instruments (III) 2

This sub-committee is a central point for discussing matters related to all sub-committees and as such needs to be monitored by RINA.

The Institution attended this sub-committee in order to follow the Casualty Statistics and investigations aspects. Currently, the recorded investigations do not reveal any naval architectural problems –they appear to be operational matters.

Port State Control activities are also monitored for the same reason. A programme for ascertaining deficiencies in passenger ship operations – HAVEP - is being implemented but is not sufficiently developed to ascertain causes of deficiencies.

Assembly 29

The Assembly was attended by the Institution on an ad-hoc basis and to demonstrate support for IMO activities.

The Institution will continue to be well represented at all relevant IMO committees and sub-committees in 2016.

High Speed Vessels Committee

Key topics being discussed during the year were:

- Wash
- EEDI/Pollution controls
- IMO HSC 2000 Code
- WBV
- WFSV.

EEDI

The Committee is concerned that the IMO has accepted new regulations for EEDI (emission) levels for all Ropax. There is no exception provided for craft of more than 400 Gross tons. However, fast craft cannot meet the published maximum EEDI curve, so if a country was to apply the regulations without exception, it would preclude new construction of

large fast Ropax. The Committee has expressed its concern over this key issue to the IMO Committee.

Small Craft Committee

The Committee met 3 times during the year. Topics discussed at these meetings included the following:

- Cheeki Rafiki: The Institution was represented at the MAIB meeting on the sinking of the Cheeki Rafiki
- FRP sandwich laminates
- Stability Standards
- Required strength of FRP hulls to resist impact loads with floating objects
- FRP laminate interlaminar shear strength

The Committee agreed on the nomination for the 2015 Small Craft Medal.

Publications Committee

The Publications Committee met to determine the award of Medals and Prizes for papers published in the Transactions.

Professional Affairs Committee

The Committee met on three occasions during the course of the year during which the primary topics of discussion were the introduction of mandatory reporting by members of their CPD activity, and the accreditation of academic and Initial Professional Development programmes.

Safety Committee

The Safety Committee met four times in 2015, when effort was put into structuring a plan for the current subject areas. This plan has allowed the committee to prioritise its focus on work topics, understand where there are linkages with other Institution technical committees and at an early stage establish stakeholders and how the collective expertise can most effectively be used to improve safety. The plan is a live document and at each meeting it was reviewed to ensure changes arising from newer priorities could be reflected as they arose.

The production of the plan has helped support working with these other technical committees, since there has been wider visibility of the Safety Committee's areas of interest. This has been particularly successful in respect of working with the IMO Committee, where there is close collaboration.

Fishing Vessels

Members of the committee continue to work with appropriate third parties to help improve the safety of fishing vessels. There has been correspondence with a number of organisations e.g. DEFRA, European Commission, Marine Management Organisation and as accidents continue to be reported in this area the committee will continue to work with relevant organisations to support improvements in safety.

Current activities include working with Seafish to supporting the development of training courses, particularly in the area of stability awareness. Additionally, the committee is investigating possible regulatory break points for fishing vessels, and the potential unintended consequences of the

different types of break points, prior to discussions with external stakeholders.

Submissions have also been made to MCA in response to their consultation on the proposed revised fishing vessels codes of safety, and activity also includes representation at relevant MAIB recommendations meetings. The Wolfson Freeboard Guidance Mark is being promoted where appropriate.

Analysis of Inclining Experiments

The issue of the inherent inaccuracies in the traditional manner of analysing the results of an inclining experiment was considered. The effect of these inaccuracies could, for some hull forms, result in the vertical-centre-of-gravity being significantly underestimated, thus giving an optimistic idea of the reserves of stability. It was noted that there is much detail on the conduct of inclining experiments in the IMO Intact Stability Code, but very little detail on the method of analysis. This has led to the committee raising this issue with IMO Committee for further consideration and action. Engagement with academia is being sought to initiate a wider dialogue on this subject.

Large Containerships

The continuing trend regarding the increase in size of containerships which was reported last year has prompted wide ranging discussions both within the Safety Committee and with outside organisations e.g. the insurance and reinsurance community. Subjects such as the mis-declared container weights and subsequently new container weight legislation, safety issues relating to lashings of containers, the possible effect on the hull girder loads of increased spacing between containers (being introduced by IMO to enable better access by stevedores) due to entrapped water have been discussed. Additionally, the effect of windage on ships with high numbers of deck stacked containers and the impact on anchor and cable design was also raised.

Passenger Ship Safety

A paper was prepared detailing the discussions held within the Passenger Ship Working Group. The report not only details those discussions that were held as a consequence of the *Costa Concordia* incident, but it also includes the outline of previous discussions within the Institution on Passenger ship safety. (This report is now available on the Institution's website).

Although there were few lessons for naval architects to consider as a consequence of the *Costa Concordia*, issues such as the "obstructions to lifeboats being launched at an adverse angle of heel", remain as areas where improvements to safety could be made. This subject area has been included within the newly formed Lifeboat Sub Committee, see below. The whole issue of passenger safety on very large cruise liners remains an area of interest and concern to the Committee.

Formal Safety Assessment for IMO Rule Making

Through the IMO Committee, the Safety Committee provided continued support on the IMO FSA Expert Group. This group has looked at the application of IMO FSA to the European Maritime Safety Agency's (EMSA) studies for certain representative ro-ro ferries, passenger ships and other ship types. The Group recently looked into the survivability of

passenger ships taking into account the risk models, the data used and the assumptions made based upon the Revised FSA Guidelines.

Lifeboats including the wider Life Saving Appliances

A number of issues relating to lifeboats were raised during the course of the year such as obstructions to launching lifeboats, space allowance on lifeboats, maintenance of lifeboats including the associated launch gear, the lack of consistent rules for the scantlings of FRP lifeboats, increase in weight of FRP structures through life and the lack of rules particularly for Polar Regions. It was recognised that as lifeboats are generally used very little, then improvements in safety are not always seen as a high priority by operators. As a consequence, it was agreed to establish a sub-committee to consider these issues.

In conjunction with this approach, the IMO Committee were addressing a number of issues by applying IMO methodology relating to Life Saving Appliances and therefore it seemed logical to work together on this subject. The sub-committee met once at the end of the year and started by identifying areas where there was concern that safety issues could be better addressed. Those areas were then reviewed to identify which ones are likely to be able to be influenced by the Institution to improve safety.

Benevolent Fund Committee

Limited financial assistance was given to members who found themselves in necessitous circumstances. The Council records its grateful thanks for the donations to the Benevolent Fund received during the year.

MEMBERSHIP

Members on the Roll at 31 December 2015 with the change over the year are shown below:

	Total	Change
Hon Fellows	9	0
Fellows	917	+26
Members	3489	102
Associate Members	3460	+43
Associate	327	+4
Student Members	1901	+102
Junior Members	203	+34
Corporate Partners	95	-1
	-----	-----
Total	10401	+310

Corporate Partners

The following companies were elected Corporate Partners in 2015, thereby demonstrating their commitment to achieving and maintaining high standards of professional competence amongst their engineers:

Foreship Ltd
Malin Marine Consultants (Aberdeen) Ltd
KMAC
Research and Development Centre of the Saudi Navy

COOPERATION WITH OTHER ORGANISATIONS

The Engineering Council

The Institution continued to carry out its responsibilities as a Licensed and Nominated Body of the Engineering Council of the United Kingdom. A total of 2251 members were registered with the Engineering Council, with 103 members being registered during the year.

RINA and IMarEST

The Institution continued to work closely with the IMarEST through joint branch and accreditation activities.

Agreements of Co-Operation

The Institution continued to work with national professional institutions with common aims and objectives through its Agreements of Co-operation.

Agreements of Cooperation were signed with the Hellenic Institute of Marine Technology and the Asociación Argentina De Ingeniería Naval.

The Council considers that these Agreements also serve to demonstrate the Institution's commitment to maintaining the professional standing and influence it derives from its international membership and activities.

International Maritime Organisation

The Institution has continued to make a significant contribution to improving safety at sea and the protection of the maritime environment through its work as an NGO at the International Maritime Organisation. The significance of this contribution is recognised by staff and members of the IMO, and is an important element of the public benefit which the Institution provides.

International Standards Organisation

The Institution fulfilled its role as a Liaison Member of the International Standards Organisation.

Confederation of European Maritime Technology Societies

The Council of CEMT met twice during the year. The Institution was represented by the Chief Executive, who is also the Chairman of the CEMT Council.

PUBLICATIONS

Journals

The Naval Architect, *Ship & Boat International*, *Ship Repair & Conversion Technology*, *Offshore Marine Technology* and *Warship Technology*, were published during the year, providing reports on development in technology in all sectors of the maritime industry. *The Naval Architect* was again published in the Chinese language.

All journals published during the year were also published online, and in CD-ROM format as annual compendiums.

Significant Ships and Significant Small Ships

The series were continued with the publication of *Significant Ships 2015* and *Significant Small Ships 2015*.

Transactions

Transactions Part A – *International Journal of Maritime Engineering (IJME)* was published four times during the year. Transactions Part B – *International Journal of Small Craft Technology (IJSCT)*, was published twice during the year. Transactions Part C – *International Journal of Marine Design (IJMD)*, – was published twice during the year.

Both the *IJME* and *IJSCT* were published in printed format, on CD-ROM and on the RINA website. The *IJMD* was published online only

CONFERENCES, COURSES AND EVENTS

Conferences

The following conferences and courses were organised or co-organised during 2015:

Jan: Design & Operation of Wind Farm Support Vessels, London, UK
Feb: Fatigue on Floating Structures, London, UK
Mar: High Performance Yacht Design, Auckland, New Zealand
Mar: Damage Ship III, London, UK
Apr: HMPV China, Shanghai, China
Apr: Contract Management for Ship Construction, Repair & Design, London, UK
Apr: Ice Class Vessels, London, UK
Apr: RINA Annual Dinner, London, UK
May: Mega & Super Yachts, Genoa, Italy
May: Basic Dry Dock Training Course, London, UK
Jun: Warship 2015: Surface Vessels, Bath, UK
Jul: Communications for Engineers, London, UK
Sep: Marine Design, London, UK
Sep: ICSOT Korea, Busan, South Korea
Sep: ICCAS 2015, Bremen, Germany
Oct: Pacific 2015: International Maritime Exposition, Sydney, Australia
Oct: Contract Management for Ship Construction, Repair & Design, London, UK
Oct: Communication Skills for Engineers, London, UK
Nov: ICSOT Indonesia, Surabaya, Indonesia
Nov: Ship Efficiency, Rotterdam, The Netherlands
Nov: Presidents Invitation Lecture & Dinner, London, UK
Dec: Education & Professional Development, London, UK
Dec: Waterjet Propulsion, Shanghai, China
Dec: ICSOT, Kharagpur, India

Sponsored Student Places

The Council record their grateful thanks to the following companies who generously sponsored places for students at Institution conferences during the year.

BMT Group
BAE Systems
Lloyd's Register
ABS
Danish Society of Naval Architects & Marine Engineers
Worshipful Company of Shipwrights

Annual General Meeting

The Annual General Meeting was held on 30 April 2015 at the Institution's Headquarters, at which the following Resolution were passed:

Resolution : To re-elect haysmacintyre as Auditors until conclusion of the next Annual General Meeting

On completion of the AGM, a presentation was given by Dr Holly Phillips, entitled "*Recent Technical Developments at the RNLI*".

Annual Dinner

The Annual Dinner was held on 30 April 2015 at the Lancaster London Hotel. The principal speakers were Tom Boardley, President of the UK Chamber of Shipping and the Rev'd Phillip Auden, Mission to Seafarers.

President's Invitation Lecture

The President, Mr Bruce Rosenblatt, welcomed guests and members to the 2015 President's Invitation Lecture on 19 November at One Whitehall Place, when Mr Peter I. Keller, Executive Vice President of TOTE Inc. presented a review of TOTE's all encompassing LNG programme.

The 2015 President's Invitation Lecture was again sponsored by ABS, to whom the Institution is indebted for their support of this and other Institution activities.

Technical Forum

Extensive use was made of the Institution's Group on the online professional network LinkedIn as a technical forum. Membership of the Group rose by more than 1000 to over 12,750.

Division, Sections and Branches

The Divisions, Branches and Sections provided a comprehensive programme of technical and social events during the year.

The Board of Trustees and the Council recognise of the value which the membership places upon the activities of the Divisions, Sections and Branches, and record their thanks to those members who spend much time and effort in organising these activities.

INSTITUTION AWARDS

William Froude Medal

The William Froude Medal was presented to Professor Jeom Paik in recognition of his significant achievement over many years in the field of naval architecture and ocean engineering, and in particular in the complex subject of the structures and strength of ships.

The Award of the Medal was announced at the 2015 Annual Dinner and presented by Past President, Dr Peter Usher, himself a recipient of the Medal for his contribution to shipbuilding.

Institution Medal of Distinction

The Institution Medal for papers of distinction published in the 2015 Transactions was awarded to the following:

M G Moarbitto & M E Pawkov for their paper *Experiments with stepped planing hulls for special operations craft*.

H Supomo, D Manfaat and A Zubaydi for their paper *Flexure strength analysis of laminated bamboo slats (Bambusa Arundinacea) for constructing small fishing boat shell*.

Jeom Paik Prize

The Jeom Paik Prize for the best paper on the subject of structures published by an author under the age of 30 in the 2015 Transactions was awarded to A Cubells for his paper *Photogrammetry measurements of initial imperfections for the ultimate strength assessment of plates*.

Samuel Baxter Prize

The Samuel Baxter Prize for the best paper on the subject of safety published by an author under the age of 30 in the 2015 Transactions was awarded to A M Bishop for his paper *Energy use of fishing vessels in Tasmania*

W H C Nicholas Prize

The W H C Nicholas Prize for the best paper on a design related subject published by an author under the age of 30 in the 2015 Transactions was awarded to V Rumawas for his paper *A content analysis of human factors in ship design*.

Ian Telfer Prize

The Ian Telfer Prize for the best paper on a design related subject published by an author under the age of 30 in the 2015 Transactions was awarded to Z Q Leong for his paper *RANS-based CFD prediction of the hydrodynamic coefficients of DARPA SUBOFF geometry in straight-line and rotating arm manoeuvres*.

David Goodrich Prize

The David Goodrich Prize for the best paper presented at the 2015 Warships Conference was awarded to David Manley for his paper *The loss of HMS Sheffield: a Technical Reassessment*.

Small Craft Group Medal

The 2015 Small Craft Medal was awarded to Donald L Blount, in recognition of his significant contribution over many years to improving the design of small high speed craft, particularly planing and naval craft.

Student Awards

Student Awards in recognition of their achievement were presented to students at 24 universities.

The Institution is grateful to the following organisations and companies for their support of the Awards:

BAE Systems
Babcock (NZ)
BMT Fleet Technology
BMT Group
Bureau Veritas/Amico Società di Navigazione
Greek Shipping Cooperative Committee
Keppel Shipyard
Lloyd's Register
PT BKI
Defence, Science & Technology Group

RINA–Lloyd's Register Maritime Safety Award

The 2014 RINA – Lloyd's Register Maritime Safety Award was awarded to Royal Caribbean Cruise Lines for its integrated Safety Command Centre, which was considered to have the potential to make a significant improvement in maritime safety

The 2014 Maritime Safety Award was also presented to Tom Allan, in recognition of his lifelong contribution to the improvement of maritime safety.

The Award was announced and presented at the 2015 Annual Dinner by Tom Boardley, Marine Director of Lloyd's Register.

RINA – QinetiQ Maritime Innovation Award

The 2014 RINA–QinetiQ Maritime Innovation Award was awarded to Subsea Industries NV in recognition of the innovative research and development leading to the introduction of the Ecolock hull coating system. The Award was announced at the 2015 Annual Dinner and presented by Sarah Kenny, Managing Director of QinetiQ Maritime

MEMBERS DECEASED DURING THE YEAR

FRINA

G R Adams
A H Buchanan
R Campbell
J S Clinton
N W Cormack
A N Cowan
D M Craig
M K Das Gupta
G H Fuller
C N Gallin
F Harvey
J Keelty
J H Mayson
A Oosterveld
A C W Sinclair
K H W Thomas

MRINA

D H Andreae
T F Arlotte
N R Clark
C B S Dawson
T A Eagle
B Fagan
C G Goodall
C E Lewis
C H A Marshall
B W McNeice
A Priyanto
G J Roy
D van Woerkom

AssocRINA

I J Hoyle
T N Stephens
G N Woodfine



Royal Institution of Naval Architects

FINANCIAL STATEMENTS FOR THE PERIOD ENDING 30 SEPTEMBER 2015

FINANCIAL REVIEW AND RESERVES POLICY

Income (Restricted and Unrestricted) in 2014/15 was £2.28m compared to £2.24m in 2013/14. Expenditure (Restricted and Unrestricted) in 2014/15 was £2.21m, compared to £2.12m in 2013/14.

Net incoming resources in 2014/15 before investment losses were £70k, compared with net incoming resources before investment gains of £113k in 2013/14.

The total value of the Institution's funds (Unrestricted, Restricted and Endowment) at 30 Sep 2015 was £9.41m compared with £9.47m at 30 Sep 2014. The value of the Unrestricted Fund (investments, cash, fixed assets) was £7.81m at 30 Sep 2015 compared with £7.84m at 30 Sep 2014. The value of Restricted Funds was £173k at 30 Sep 2015, compared with £131k at 30 Sep 2014. The value of Endowment Funds (investments) was £1.43m at 30 Sep 2015 compared with £1.49m at 30 Sep 2014. The total value of the Institution's investments was £3.77m at 30 Sep 2015 compared with £3.5m at 30 Sep 2014.

The operating surplus in the Unrestricted Fund in 2014/15 was £29k compared with an operating surplus of £79k in 2013/14. The operating surplus in the Restricted Fund in 2014/15 was £41k, compared with an operating surplus of £33k in 2013/14.

Investment policy and performance

In accordance with authority enabled by the Order of the Charity Commissioners for England and Wales, dated 1 Nov 2002 and issued under Section 26 of the Charities Act 1993, the Trustees have adopted a 'Total Return' policy with regard to the Endowment Funds.

The investment powers of the Board of Trustees are set out in the Royal Charter and By Laws, copies of which are available from the Chief Executive at RINA Headquarters.

Under the terms of those powers, management of the investment portfolio has been delegated to PruM&G Investment Management Ltd.

The Board of Trustees continues to review its investments policy. The Board considers the performance of the investments in the year to be satisfactory.

STATEMENT OF THE BOARD OF TRUSTEES' RESPONSIBILITIES

Law applicable to charities in England & Wales requires the Trustees, to prepare financial statements for each financial year which give a true and fair view of the Institution's

financial activities during the year and of its financial position at the end of the year. In preparing financial statements giving a true and fair view, The Board of Trustees should follow best practice and:

- select suitable accounting policies and apply them consistently;
- make judgements and estimates that are reasonable and prudent;
- state whether applicable accounting standards have been followed, subject to any material departures disclosed and explained in the financial statements; and
- prepare the financial statements on a going concern basis unless it is inappropriate to presume that the Institution will continue in operation.

The Board of Trustees is responsible for keeping accounting records which disclose with reasonable accuracy the financial position of the Institution and which enable them to ascertain the financial position of the Institution and which enable them to ensure that the financial statements comply with applicable law. They are also responsible for safeguarding the assets of the Institution and hence for taking reasonable steps for the detection and prevention of fraud and other irregularities.

Annual Accounts

The Financial Statements which follow are a summary of the full statutory accounts of the Institution. The full statutory accounts may be obtained from the Chief Executive.

Auditors

haysmacintyre have expressed their willingness to continue in office as auditors and a resolution proposing their re-appointment will be submitted at the Annual General Meeting.

INDEPENDENT AUDITORS' REPORT TO THE COUNCIL OF THE ROYAL INSTITUTION OF NAVAL ARCHITECTS

We have audited the financial statements of the Royal Institution of Naval Architects for the year ended 30 September 2013 which comprise the Statement of Financial Activities, the Balance Sheet and the related notes. The financial reporting framework that has been applied in their preparation is applicable law and United Kingdom Accounting Standards (United Kingdom Generally Accepted Accounting Practice).

This report is made solely to the charity's members, as a body, in accordance with Section 144 of the Charities Act 2011 and regulations made under section 154 of that Act. Our audit work has been undertaken so that we might state to the Charity's Trustees those matters we are required to state to

them in an Auditors' Report and for no other purpose. To the fullest extent permitted by law, we do not accept or assume responsibility to anyone other than the charity's trustees as a body, for our audit work, for this report, or for the opinions we have formed.

Respective responsibilities of trustees and auditor

As explained more fully in the Statement of the Board of Trustees' Responsibilities, the trustees are responsible for the preparation of financial statements which give a true and fair view.

We have been appointed as auditor under section 144 of the Charities Act 2011 and report in accordance with regulations made under section 154 of that Act. Our responsibility is to audit and express an opinion on the financial statements in accordance with applicable law and International Standards on Auditing (UK and Ireland). Those standards require us to comply with the Auditing Practices Board's Ethical Standards for Auditors.

Scope of the audit of the financial statements

An audit involves obtaining evidence about the amounts and disclosures in the financial statements sufficient to give reasonable assurance that the financial statements are free from material misstatement, whether caused by fraud or error. This includes an assessment of: whether the accounting policies are appropriate to the charity's circumstances and have been consistently applied and adequately disclosed; the reasonableness of significant accounting estimates made by the trustees; and the overall presentation of the financial statements. In addition, we read all the financial and nonfinancial information in the Trustees' Report to identify material inconsistencies with the audited financial statements. If we become aware of any apparent material misstatements or inconsistencies we consider the implications for our report.

Opinion on financial statements

In our opinion the financial statements:

- give a true and fair view of the state of the charity's affairs as at 30 September 2013, and of its incoming resources and application of resources, for the year then ended;
- have been properly prepared in accordance with United Kingdom Generally Accepted Accounting Practice; and
- have been prepared in accordance with the requirements of the Charities Act 2011 and Royal Charter.

Matters on which we are required to report by exception

We have nothing to report in respect of the following matters where the Charities Act 2011 requires us to report to you if, in our opinion:

- the information given in the Trustees' Report is inconsistent in any material respect with the financial statements; or
- sufficient accounting records have not been kept; or
- the financial statements are not in agreement with the accounting records and returns; or
- we have not received all the information and explanations we require for our audit.

haysmacintyre
Statutory Auditors

SUMMARY STATEMENT OF FINANCIAL ACTIVITIES FOR THE YEAR ENDED 30 SEP 2015

	Unrestricted Funds £	Restricted Funds £	Endowment Funds £	Total Funds 2015 £	Total Funds 2014 £
Income and expenditure					
Incoming resources					
Charitable Activities					
Membership	768,887	-	-	768,887	776,622
Events	458,227	-	-	458,227	326,439
Publications	827,303	-	-	827,303	955,832
Income from generated funds					
Donations and legacies	500	13,100	-	13,600	15
Investment income	135,476	78,669	-	214,145	172,269
Gain on disposal of tangible fixed assets	-	-	-	-	5,658
Total incoming resources	<u>2,190,393</u>	<u>91,769</u>	<u>-</u>	<u>2,282,162</u>	<u>2,236,835</u>
Resources expended					
Charitable Activities					
Membership	559,845	50,423	-	610,268	572,505
Events	620,801	-	-	620,801	497,498
Publications	968,938	-	-	968,938	1,044,253
Governance	<u>12,219</u>	<u>-</u>	<u>-</u>	<u>12,219</u>	<u>9,931</u>
Total resources expended	<u>2,161,803</u>	<u>50,423</u>	<u>-</u>	<u>2,212,227</u>	<u>2,124,187</u>
Net incoming resources before other recognised gains and losses	28,590	41,346	-	69,936	112,648
Other recognised gains					
Gain on investment assets	<u>(70,773)</u>	<u>-</u>	<u>(58,081)</u>	<u>(128,854)</u>	<u>137,789</u>
Net movement in funds	(42,183)	41,346	(58,081)	(58,918)	250,437
Reconciliation of funds					
Total funds brought forward	<u>7,849,069</u>	<u>131,331</u>	<u>1,490,802</u>	<u>9,471,202</u>	<u>9,220,765</u>
Total funds carried forward	<u>£7,806,886</u>	<u>£172,677</u>	<u>£1,432,721</u>	<u>£9,412,284</u>	<u>£9,471,202</u>

All amounts relate to continuing activities.

BALANCE SHEET AS AT 30 SEPTEMBER 2015

	2014		2013	
	£	£	£	£
FIXED ASSETS				
Tangible assets		5,553,818		5,528,503
Investments		3,499,507		2,961,718
		<u>9,053,325</u>		<u>8,490,221</u>
CURRENT ASSETS				
Debtors	171,846		194,477	
Cash at bank and in hand	618,008		873,153	
	<u>789,854</u>		<u>1,067,630</u>	
CREDITORS: amounts falling due within one year	(371,977)		(337,086)	
NET CURRENT ASSETS		417,877		730,544
NET ASSETS		<u>£9,471,202</u>		<u>£9,220,765</u>
CHARITY FUNDS				
Unrestricted funds				
General funds		7,849,069		7,702,009
Restricted		131,331		98,077
Endowment		1,490,802		1,420,679
		<u>£9,471,202</u>		<u>£9,220,765</u>

The financial statements were approved and authorised for issue by the Board of Trustees on 28 Jan 2014

and signed on their behalf by:

J Frier
Trustee