THE INSTITUTE OF MARINE ENGINEERS
Founded 1889. Incorporated by Royal Charter 1933

Patron: Her Majesty The Queen

TRANSACTIONS

Vol. 92 SUPPLEMENT 1980

INDEX

TRANSACTIONS OF

TECHNICAL MEETINGS

AND CONFERENCES

1979–1980 SESSION

ISSN 0309–3948

THE INSTITUTE OF MARINE ENGINEERS

Incorporated by Royal Charter 1933

The Memorial Building, 76 Mark Lane, London EC3R 7JN

Telephone:
01-481 8493

Telex:
886841

ISSN 0309-3948

INTRODUCTION

This Index covers volume 92 of the Transactions, and the Proceedings of the conferences held in the 1979–80 session. Conference Proceedings are not issued with the annual volume of Transactions, but they are available for sale from the Institute. The three sections of the Index and instructions for use are described below.

SECTION 1. LIST OF PAPERS

This is a complete list of papers presented during the year at the Institute's Technical Meetings and Conferences. The Conferences do not form part of the annual volume of Transactions but they can be obtained from the Institute as separate publications. The entry for each paper consists of a full bibliographical description and a code number.

The code numbers are used in both the Author and Subject Indexes. Papers presented at the Technical Meetings have been given code numbers which indicate the volume number, the Technical Meeting designation, the part number, and the number of the paper. An asterisk after the code numbers indicates a President's Address.

V92	/TM	—1	(1)
Volume 92	Technical Meeting	Part 1	Paper 1

Papers presented at Conferences have been numbered in one consecutive sequence, from C40 for the first Conference paper presented in the 1979–80 session to C68 for the last paper of the session. Next year's code number sequence will commence with paper C69. The ranges of code numbers allocated to each Conference are given below.

Code Number Range	Conference Title
C40–C45	Proceedings of the Conference on Combustion of Fuels in Ships 1979–1985.
C46–C51	Proceedings of the Conference on Mooring Large Ships over 150,000 dwt.
C52–C57	Proceedings of the Conference on Operation of Ships in Rough Weather. The Use of Onboard Instrumentation.
C58–C68	Proceedings of the Conference on Ship Repairs.

SECTION 2. AUTHOR INDEX

The Authors of the papers are listed alphabetically; the codes which follow the names refer to the List of Papers (Section 1).

To find paper written by a particular author:

(1) Turn to the Author Index.
(2) Note the code number adjacent to the name.
(3) Look for the code number in the List of Papers; this will provide the full bibliographical description and the location.

SECTION 3. SUBJECT INDEX

The contents of each paper have been summarized as a series of keywords. These have been arranged in chains. The terms included within the chains might describe a concept which requires greater explanation than a single keyword can offer, or alternatively they might show that several aspects of a concept are discussed in the paper. Chains are punctuated by the symbol "$"; keywords are separated by the symbol ":".

For example, an entry for the paper "The accelerated corrosion of steel hulls due to sulphiding of copper-based antifouling systems" by L. J. E. Sawyer, reads:

CORROSION : Sulphiding $ Hulls : Steel : Copper-based Antifouling $ Cathodic Protection : Newbuilding **V92/TM-6**

This would indicate that the paper concerns the role of copper-based antifouling in the corrosion of ships' hulls, with particular refrence to newbuildings. The full bibliographic citation, for locating or ordering the paper, can be found in the List of Papers (Section 1), as described above.

To find paper on a given subject:

(1) Turn to the Subject Index.
(2) Think of the terms which best describe the subject; as a general rule it is better to work from the broadest to the most specific.
(3) Note the code numbers.
(4) Look for the code numbers in the List of Papers; this will provide full bibliographical descriptions and the locations.

SECTION 1. LIST OF PAPERS

TECHNICAL MEETINGS (TM)

V92/TM-1* **McAFEE, J.**
The Immortals.
Vol 92, TM. Paper 1. pp. 1–20.

V92/TM-2 **WITT, K.**
On board reliquefaction of LNG boil-off.
Vol 92, TM. Paper 2. pp. 22–35.
Sulzer Brothers Ltd.

V92/TM-3 **EAMES, C. F. W.**
SINCLAIR, L.
Methods of attaching a marine propeller to the tailshaft.
Vol 92, TM. Paper 3. pp. 170–182
Stone Manganese Marine Ltd.

V92/TM-4 **MACKAY, K. H.**
Some modern ideas on shipboard management.
Vol 92, TM. Paper 4. pp. 78–92.
B.P. Tanker Company Ltd.

V92/TM-5 **VOLCY, G. C.***
BAUDIN, M.*
ANDREAU, C.*
MANNER, A.**
SEPPALA, S.**
European-built sea barge carriers: their design, machinery/hull interaction: and investigations into vibratory behaviour.
Vol 92, TM. Paper 5. pp. 46–64.
* Bureau Veritas.
** Valmet Oy Shipyard, Finland.

V92/TM-6 **HUGHES, J. F.**
Electrostatic charges on board ships.
Vol 92, TM. Paper 6. pp. 38–44.
University of Southampton.

V92/TM-7 **BUCHANAN, G. I.**
Offshore firefighting: the development of a high capacity shipborne system.
Vol 92, TM. Paper 7. pp. 94–108.
Kongsberg Ltd.

V92/TM-8 **PITT, G. D.**
RAMSAY, M. M.
GRAY, D.
Fibre optics in the marine environment.
Vol 92, TM. Paper 8. pp. 66–75.
Standard Telecommunications Laboratories Ltd.

V92/TM-9 **SAUNDERS-DAVIES, D. L.***
RICHARDS, M. N.**
GALVIN, G. D.**
Factors affecting the performance of tanker propulsion gearing—an operator's view.
Vol 92, TM. Paper 9. pp. 129–160.
* Shell International Marine Ltd.
** Shell Research Ltd.

V92/TM-10 **RUTHERFORD, K. J.**
GIBBONS, D. J.
Machinery system design for a platform emergency and support vessel.
Vol 92, TM. Paper 10. pp. 109–128.
B.P. Tanker Company Ltd.

V92/TM-11 **SAWYER, L. J. E.**
The accelerated corrosion of steel hulls of ships due to sulphiding of copper based antifouling compositions.
Vol 92, TM. Paper 11. pp. 162–167.
Ministry of Defence (P.E.) Admiralty Marine Technology Establishment.

CONFERENCES

CONFERENCE 5/C40–45
Proceedings of the Conference on Combustion of Fuels in Ships 1979–1985. The Institute of Marine Engineers, London, 1980.

C40 **LAKE, Cdr. V. M.***
THOMAS, E. L.**
The owners' considerations of the problems associated with future marine fuels.
Conference on Combustion of Fuels in Ships 1979–1985.
Paper 40. pp. 1–7.
* Denholm Ship Management.
** Lambert Brothers Oil Ltd.

C41 **BERRYMAN, T. J.**
Residual marine fuels—present and future.
Conference on Combustion of Fuels in Ships 1979–1985.
Paper 41. pp. 9–14.
Shell International Petroleum Co. Ltd.

C42 **HENSHALL, S. H.**
Combustion in slow speed diesel engines.
Conference on Combustion of Fuels in Ships 1979–1985
Paper 42. pp. 15–20.
Doxford Engines Ltd.

C43 **LANARY, R. S.**
Efficient operation of combustion equipment in marine boilers.
Conference on Combustion of Fuels in Ships 1979–1985.
Paper 43. pp. 21–27.
Hamworthy Engineering Ltd.

C44 **NEWBERY, P. J.**
Shipboard systems for residual fuels and their operation.
Conference on Combustion of Fuels in Ships 1979–1985.
Paper 44. pp. 29–36.
Shell International Trading Company.

C45 **ATTWOOD, J. H.**
FALBERG, R. M.
HINKS, H. C.
SMITH, K. A.
A fuel conservation programme for large steam tankers.
Conference on Combustion of Fuels in Ships 1979–1985.
Paper 45. pp. 37–44.
Esso International Services Inc.

Conference 6/C46–51
Proceedings of the Conference on Mooring Large Ships over 150,000 dwt. The Institute of Marine Engineers, London, 1980.

Questionnaire I.Mar.E.
Mooring large ships over 150,000 dwt.
Conference on Mooring Large Ships over 150,000 dwt.
Questionnaire.

C46 **BUCKLE, A. K.**
Ten year review of defects and failures in large ships' anchoring and mooring equipment.
Conference on Mooring Large Ships over 150,000 dwt.
Paper 46. pp. 1–10.
Lloyd's Register of Shipping.

C47 **LAWRENCE, Capt. W. H. R.**
The operation of single point moorings.
Conference on Mooring Large Ships over 150,000 dwt.
Paper 47. pp. 11–17.
Shell International Marine Ltd.

C48 **PATRICK, J. G.**
The design of jetties for large ships.
Conference on Mooring Large Ships over 150,000 dwt.
Paper 48. pp. 19–24.
Harris and Partners.

C49 **BRUCE, P.**
Inadequacy of anchors in large ships.
Conference on Mooring Large Ships over 150,000 dwt.
Paper 49. pp. 25–32.
Bruce International Ltd.

C50 **HAAK, R. van den**
Design of anchors, cables and mooring wires.
Conference on Mooring Large Ships over 150,000 dwt.
Paper 50. pp. 33–39.
Vrijhof Ankers B.V. Holland.

C51 **LASSEN-URDAHL, J.**
Improved anchor windlass system for large vessels.
Conference on Mooring Large Ships over 150,000 dwt.
Paper 51. pp. 41–48.
Norwinch Group, A.S. Bergens Mekaniske Verksteder.

Conference 7/C52–57

Proceedings of the Conference on Operation of Ships in Rough Weather. The Use of Onboard Instrumentation. The Institute of Marine Engineers, London, 1980.

C52 **WALKER, H. O.**
Monitoring and recording of ship data.
Conference on Operation of Ships in Rough Weather.
Paper 52. pp. 1–7.
Fisher Controls Ltd Control Systems Division.

C53 **WOODFORD, P. S.**
A reliability approach to shipboard systems.
Conference on Operation of Ships in Rough Weather.
Paper 53. pp. 9–14.
Essams Ltd.

C54 **HOFFMAN, D.**
Operational criteria for shiphandling in rough weather.
Conference on Operation of Ships in Rough Weather.
Paper 54. pp. 15–20.
Hoffman Maritime Consultants Inc.

C55 **MOENS, W. D.**
Weather routeing of ships.
Conference on Operation of Ships in Rough Weather.
Paper 55. pp. 21–26.
Royal Netherlands Meteorological Institute (KNMI).

C56(1) **JOURNÉE, J. M. C.***
MEIJERS, J. H. C.**
Ship routeing for optimum performance.
Conference on Operation of Ships in Rough Weather.
Paper 56(1). pp. 27–32.
* Ship Hydromechanics Laboratory, Delft University of Technology.
** Royal Dutch Shipowners Association.

C56(2) **MEIJERS, J. H. C.**
Some economical aspects of the routeing of ships.
Conference on Operation of Ships in Rough Weather.
Paper 56(2). pp. 33–36.
Royal Dutch Shipowners Association.

C57 **TAYLOR, K. V.**
Onboard guidance for heavy weather operation.
Conference on Operation of Ships in Rough Weather.
Paper 57. pp. 37–44.
Lloyd's Register of Shipping.

Conference 8/C58–68

Proceedings of the Conference on Ship Repairs. The Institute of Marine Engineers, London, 1980.

C58 **HUTCHINSON, J. L.**
The shipowner's view of ship repair yards.
Conference on Ship Repairs. Paper 58. pp. 1–12.
Esso Europe Inc.

C59 **HENTON, D.**
Warship refitting—planning and control.
Conference on Ship Repairs. Paper 59. pp. 13–18.
Ministry of Defence (Navy).

C60 **BUTLER, R. E.**
British shiprepairing.
Conference on Ship Repairs. Paper 60. pp. 19–20.
Clydedock Engineering Ltd.

C61 **WARE, E. S.**
The VLCC—a challenge for the shiprepairer.
Conference on Ship Repairs. Paper 61. pp. 21–24.
Sembawang Shipyard Ltd, Singapore.

C62 **McIVER, J. D.**
Implications of the Health and Safety Act for electrical systems in shipbuilding and shiprepair yards.
Conference on Ship Repairs. Paper 62. pp. 25–29.
Cammell Laird Shipbuilders Ltd.

C63 **FLACK, J.***
NICHOL, J.**
Education and training for the shiprepair industry—present situation and future trends.
Conference on Ship Repairs. Paper 63. pp. 31–38.
* South Shields Marine and Technical College.
** Tyne Shiprepair Group.

C64 **McKELVIE, A. N.**
Application of paint coatings during repair.
Conference on Ship Repairs. Paper 64. pp. 39–44.
Paint Research Association.

C65 **CLAYTON, S. N.**
Some observations on machinery damage cases.
Conference on Ship Repairs. Paper 65. pp. 45–51.
Lloyd's Register of Shipping.

C66 **SINCLAIR, C. A.**
The repair of severely damaged ships.
Conference on Ship Repairs. Paper 66. pp. 53–56.
Salvage Association.

C67 **HAWKINS, R. E.**
Easing the problems of repair/maintenance in warships.
Conference on Ship Repairs. Paper 67. pp. 57–64.
Vosper Thornycroft (UK) Ltd.

C68 **HALL, J.**
Case history of the conversion of *Stena Saga*.
Conference on Ship Repairs. Paper 68. pp. 65–69.
The Middle Docks and Engineering Co. Ltd.

SECTION 2. AUTHOR INDEX

SECTION 3. SUBJECT INDEX

SHIP RESPONSE MONITORING : Weather Monitoring : Condition Monitoring $ Rough Weather : Ship Operation : Sea Trials $ m.v. *Hollandia* : Guidance System : Evaluation **C57**

SHIP ROUTEING : Economics : Fuel Cost $ Ship Performance : Seakeeping : Ship Operation $ Resistance : Propulsion : Ship Motion **Part1 C56**

SHIP ROUTEING : Economics : Safety $ Weather-Routeing : Routeing Methods : Evaluation $ Numerical Routeing Methods : Forecast Perfection **C55**

SHIP ROUTEING : Operational Costs : Quantitative Analysis $ Shipowners' Costs : Sailing Costs : Cargo Costs $ Economics **Part 2 C56**

SHIPS > 150,000 DWT : Mooring $ Anchoring : Anchor Security : Windlass Specifications $ Anchoring Systems : Defects : Survey **Questionnaire**

SHIPS > 150,000 DWT : Mooring : Kinetic Energy $ Anchor Design : Chain Cable : Windlasses $ Anchoring System : Safety : International Classification Societies Unified Requirements **C46**

SHIP/SHORE INTERFACES : Shipboard $ Staff Involvement : Self Monitoring : Management Information Systems $ Management : Budgeting : Decision Making **V92/TM-4**

SHIPYARDS : Electrical Systems $ High Voltage Systems : Lighting $ Safety : Health and Safety Act 1974 **C62**

SHOCK MEASUREMENT : Acoustic Emission : Strain Gauges $ Monitoring : Instrumentation : Alarm Systems $ Hull Stresses : Slamming : Prediction **C52**

SINGLE POINT MOORING : Operational Experience : Problems $ Ship Movement : Mooring Support Boats : Mooring Ropes $ Mooring : Mooring Systems **C47**

S.I. UNITS : Nomenclature : International System of Units $ Newton : Watt : Joule $ Biographies : Scientists : Nomenclators **V92/TM-1***

SLAMMING : Prediction : Hull Stresses $ Strain Gauges : Shock Measurement : Acoustic Emission $ Monitoring : Instrumentation : Alarm Systems **C52**

SLOW SPEED : Doxford 58JS3 : Diesel Engines $ Combustion Chambers : Atomization $ Combustion : Thermal Efficiency : Residual Fuels **C42**

SOFTWARE : Component Selection : Hardware $ Systems Engineering : Reliability : Management $ Shipboard Systems : Design : Maintenance **C53**

SPARK IGNITION : Safety : Electrostatic Charges $ Glass Reinforced Plastics : Hulls : Fuel Systems $ Cargo Tanks : Tank Washing : Corona Discharges **V92/TM-6**

STAFF INVOLVEMENT : Self-Monitoring : Management Information Systems $ Management : Budgeting : Decision Making $ Shipboard : Ship/Shore Interfaces **V92/TM-4**

STATISTICS : Machinery : Defects $ Diesel Engines : Gears : Shafts $ Turbines : Boilers : Controllable Pitch Propellers **C65**

STEEL : Copper-based Antifouling : Hulls $ Cathodic Protection : Newbuilding $ Corrosion : Sulphiding **V92/TM-11**

STENA SAGA : Roll on/Roll off Vessels $ Heavy Lift Techniques $ Shiprepairing : Conversions : Heightening **C68**

STOCKLESS ANCHORS : High Holding Power Anchors : Anchor Braking Systems $ Anchoring Systems : Design : Defects $ Very Large Crude Carriers : Anchoring Power : Storm Conditions **C49**

STORM CONDITIONS : Very Large Crude Carriers : Anchoring Power $ Stockless Anchors : High Holding Power Anchors : Anchor Braking Systems $ Anchoring Systems : Design : Defects **C49**

STRAIN GAUGES : Shock Measurement : Acoustic Emission $ Monitoring : Instrumentation : Alarm Systems $ Hull Stresses : Slamming : Prediction **C52**

STRESS : Plastic Deformation $ Propellers : Fitting : Keylen Fitting $ Pilgrim Fitting : Oil Injection Fitting : Flange Mounting **V92/TM-3**

SULPHIDING : Corrosion $ Hulls : Steel : Copper-based Antifouling $ Cathodic Protection : Newbuildings **V92/TM-11**

SUPPLY VESSELS : Shipborne Systems : Firefighting $ Offshore Structures $ Gas Turbines : Pumps : Water Jet Systems **V92/TM-7**

SURFACE PREPARATION : Coatings : Paints $ Shiprepairing : Drydocking $ Corrosion : Fouling **C64**

SURVEY : Anchoring Systems : Defects $ Ships > 150,000 dwt : Mooring $ Anchoring : Anchor Security : Windlass Specifications **Questionnaire**

SURVEY : Monitoring Systems $ Seakeeping : Rough Weather : Safety $ Oceangoing Vessels : Great Lakes Bulk Carriers : Offshore Support Vessels **C54**

SYSTEMS ENGINEERING : Reliability : Management $ Shipboard Systems : Design : Maintenance $ Component Selection : Hardware : Software **C53**

TANKS : Machinery Spaces : Inboard Repairs $ Shiprepairing : Drydocking : Planning $ Very Large Crude Carriers : Manoeuvring **C61**

TANK WASHING : Corona Discharges : Cargo Tanks $ Safety : Electrostatic Charges : Spark Ignition $ Glass Reinforced Plastics : Hulls : Fuel Systems **V92/TM-6**

TECHNICIAN EDUCATION COUNCIL : Shipbuilding Industry Training Board $ Education : Training : Apprenticeships $ Shiprepairing **C63**

THERMAL EFFICIENCY : Fuel Economy : Combustion $ Boilers : Water Tube : Oil Burners $ Atomization : Air Flow Patterns : Flue Gas Quality **C43**

THERMAL EFFICIENCY : Residual Fuels : Combustion $ Diesel Engines : Slow Speed : Doxford 58JS3 $ Combustion Chambers : Atomization **C42**

TRADE UNIONS : Labour Relations $ Shiprepairing $ United Kingdom : Tyne Shiprepair Group Ltd : Clydebank Engineering Ltd **C60**

TRAINING : Apprenticeships : Education $ Shiprepairing $ Technician Education Council : Shipbuilding Industry Training Board **C63**

TURBINES : Boilers : Controllable Pitch Propellers $ Machinery : Defects : Statistics $ Diesel Engines : Gears : Shafts **C65**

TURBINES : Diesel Engines : Very Large Crude Carriers $ Design : Installation : Maintenance $ Gears : Reduction Gears : Operational Experience **V92/TM-9**

Published for THE INSTITUTE OF MARINE ENGINEERS by Marine Management (Holdings) Ltd., (England Reg. No. 1100685)
both of 76 Mark Lane, London EC3R 7JN. Printed by E. Couchman & Co. Limited/X4364/6.81