

# SHIPING

**An Introduction to the  
Technical, Operational  
and Commercial Aspects**

**Nigel Draffin**





# **SHIPPING**

## **An Introduction to the Technical, Operational and Commercial Aspects**

**PETROSPOT**

## Dedication

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This book is dedicated to the people who make shipping work. The people on the ships, the people who work in harbours, docks and shipyards, the pilots, surveyors, maritime lawyers, maritime regulators and all of those who arrange the business of ships and shipping. Most of them never feature in the various awards ceremonies held each year but without them there would be no shipping industry.

**Nigel Draffin**



**SHIPPING**  
**An Introduction to the**  
**Technical, Operational and**  
**Commercial Aspects**

by

**Nigel Draffin**

**M.I.Mar.E.S.T.**

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Foreword by

**Peter Hinchliffe OBE**

**Secretary General**

**International Chamber of Shipping**

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## Foreword

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Shipping is as international, diverse, challenging and complex as any industry could ever be. But it is also uniquely absorbing and rewarding.

The industry is changing very quickly. Ships are getting bigger, ports are getting deeper and the Panama Canal is getting wider. The Northern Sea Route is opening up and trading patterns are changing. As the centre of gravity of the industry continues to shift eastwards, oil and commodity markets have seldom been more volatile, freight rates under more pressure or finance harder to come by. Improvements in technology and communications are coming thick and fast. Sustainability has become the buzzword and requirements on air emissions and ballast water are forcing the pace of change. The fuels are changing too, with liquefied natural gas (LNG), methanol, glycerol and others now vying for attention as distillates mount a challenge on the dominance of heavy fuel oil. The interest in abatement technology is steadily growing.

Against this background, the need for industry knowledge, education and hands on experience has never been greater, both at sea or onshore. In this context, this book by shipping and bunker industry expert Nigel Draffin is a perfect starting place.

*Shipping: An Introduction to the Technical, Operational and Commercial Aspects* aims to educate and inform newcomers to shipping and those whose jobs require a basic grasp of how the industry works. In that respect it handsomely delivers. The book offers a valuable insight into all aspects of shipping and deserves its place alongside the specialist technical and academic books available elsewhere.

It outlines the types of ships plying the world's oceans and the vast support infrastructure required to service the supply chain and keep the ships moving. It begins by looking at world trade and cargo flows and examines the fundamental properties of ships – why do they float; why do they sink? – before identifying the categories of vessel currently in service. It will be as helpful for the novice as it will be interesting for the more experienced seafarer or shipping professional.

Nigel's book takes the reader through the duties expected of the crew, from watchkeeping to catering, and looks at manning, training, welfare and crew retention. It covers navigation and traffic management systems, communications and onboard safety. There are sections on classification and insurance, international conventions and national maritime law.

Nigel looks at ports and the services they offer, such as pilots and agents, cranes and dry docks. He also examines the many types of craft operating in ports.

Ships exist to make money for the owners and charterers, and the financial aspect of shipping is not ignored. Nigel looks at charter parties and contracts of

affreightment, at shipbroking and vessel vetting, and at the main costs, such as manning, maintenance, insurance and bunkering. He covers sale and purchase, new building and scrapping, as well as ownership structures, mortgages and public and private ownership issues.

Ships would sail nowhere without propulsion systems and Nigel excels in describing the engines and propellers, speed and efficiency, and puts into context the issues of greenhouse gases, emissions regulation and pollution.

Piracy and the proliferation of high risk areas are now key issues for crews and ships and are therefore covered. So too are disputes, ship arrest, liens, claim resolution, mediation and arbitration.

Nigel provides a handy 'where to go for help' section and a glossary of abbreviations and shipping terms. The book also includes some helpful appendices to illustrate what might be found in voyage and time charter contracts.

All in all, this is a very accomplished piece of work which I am certain will be a great asset to anyone embarking on a career in international shipping or wanting to know more about different sectors of this great global industry.

I am very grateful to Nigel Draffin for having brought this book to fruition and am delighted to recommend it.

**Peter Hinchliffe OBE**  
**Secretary General**  
**International Chamber of Shipping**

May 2014



## Preface

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In early 2013, Llewellyn Bankes-Hughes asked me if I would write a book on shipping – when I asked why, he said that there was a need for a book which explained the basics of ships and shipping for new entrants to the maritime sector and for non-specialists. At first I was unsure that I could contribute anything useful but, as I thought about his suggestion, I realised that most of the existing works on this subject were quite specialised and did not present the ‘whole picture’ of shipping at an accessible level. I hope that this book will enable people to put all the different parts of the business of ships, cargo and shipping commerce into context and to find the answers to most questions about the industry that are outside their experience.

This is not a high-level academic work nor is it a text book for professional study. It is a book that will hopefully increase understanding for new entrants to the industry and those moving from one sector to another. There will be many omissions and, I am sure, some errors, for which the fault is mine. However, I have been fortunate to have had the help and guidance of a great number of industry professionals and specialists in the production of the text.

If I manage to increase understanding of our industry then I will be content.

**Nigel Draffin**

May 2014



## About the author

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*Shipping: An Introduction to the Technical, Operational and Commercial Aspects* is a much-needed and unique addition to the plethora of specialist books already available on almost every aspect of the global shipping industry. The fact that it has been written by Nigel Draffin, a proven expert many times over in shipping and bunkering, guarantees that it will be comprehensive, accessible to everyone who needs to learn the basics about shipping and also very useful for anyone who, on occasion, may need to check forgotten facts or find a starting point for further research.

This book is Nigel's seventh but the first to look into the diverse and complex world of shipping. His previous six titles all deal with bunkering in some form or other, including liquefied natural gas (LNG) bunkering, ships' engines and commercial issues, but this book sails a new course.

Nigel has been involved in shipping for almost 50 years and with the commercial bunker market for over 25 years. After joining Shell Tankers as an apprentice engineer in 1966, he progressed through the ranks, serving on all classes of vessel, including very large crude carriers (VLCCs) and LNG tankers. He came ashore in 1979 to join the newbuilding department of Shell International Marine. After two years of new construction in Ireland, South Korea and the Netherlands, he transferred to Shell's Research & Development unit, specialising in control systems, fuel combustion and safety systems.

In 1986, Nigel moved to the commercial department as a bunker buyer and economics analyst. In 1988, he was promoted to be Head of Operational Economics, responsible for all of the fuel purchased for the Shell fleet, the operation of the risk management policy and the speed/performance of the owned fleet. In March 1996, he joined the staff of E.A. Gibson Shipbrokers Ltd in the bunker department, and became the manager. In 2006, this department merged with US-based broking house LQM Petroleum Services, where Nigel is currently Senior Broker and Technical Manager.

Nigel is a founder member of the International Bunker Industry Association (IBIA) and has served several times on its council of management and executive board. He has also served as the association's Chairman. He is the author of IBIA's *Basic Bunkering Course* and Director of Petrosport's leading training events, the *Oxford Bunker Course*, the *Oxford Bunker Course (Advanced)*, and *An Introduction to LNG Bunkering*. Nigel is a member of the Institute of Marine Engineering, Science and Technology and Past Master of the Worshipful Company of Fuellers.

**Llewellyn Bankes-Hughes**  
**Managing Director, Petrosport Limited**

May 2014



## Acknowledgements

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The author extends his thanks to everyone who has helped in the creation of *Shipping: An Introduction to the Technical, Operational and Commercial Aspects*, particularly Doug Barrow, Steve Christie, Trevor Harrison and David Hughes who suggested many additions and changes which hopefully make the book better. He also extends his thanks to Llewellyn Bankes-Hughes and his team at Petrosport for suggesting the idea in the first place and, in particular, to Lesley Bankes-Hughes and Cheryl Marshall who have seamlessly designed and produced the finished article.

**Nigel Draffin**

May 2014



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