

# AN INTRODUCTION TO BUNKERING

**Nigel Driffin**





# **AN INTRODUCTION TO BUNKERING**



## Dedication

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This book is dedicated to those people who have believed in me and supported me.

To the head of Marine Engineering at Riversdale College, Liverpool, who told all of his apprentices in 1966 that a marine engineer could do anything.

To my mother who always believed that I could write a book (even if my teachers did not agree).

To the many people who helped me acquire the knowledge that I needed throughout my career.

To my colleagues at LQM who have put up with a lot.

To my wife Chris who has put up with very much more.

**Nigel Draffin**



# **AN INTRODUCTION TO BUNKERING**

by

**Nigel Draffin**

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

First Edition

Foreword by

**Capt M Segar**

**Director (Port) / Port Master**

**Maritime and Port Authority of Singapore**

Published by

**Petrospot Limited**

England

2008

Published in the United Kingdom by

Petrospot Limited  
Petrospot House, Somerville Court, Trinity Way,  
Adderbury, Oxfordshire OX17 3SN, England

www.petrospot.com  
Tel: +44 1295 814455  
Fax: +44 1295 814466

© Nigel Draffin 2008

First published 2008

*British Library Cataloguing in Publication Data*

A catalogue record  
for this book is available from  
the British Library

ISBN 978-0-9548097-1-3

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Petrospot Limited  
Designed by: Alison Parsons, Petrospot Limited  
Printed in England by Alden Press

# Foreword

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Bunkering is an essential part of our lives. With around 90% of global trade transported by sea, the quality, price, availability and safe handling of the fuel that powers the engines of thousands of ships that sail around the world are all crucially important.

But, the bunker industry can be extraordinarily dynamic. It covers a wide range of activities and a long list of disciplines involving a large number of players in almost every port in the world. Add in the complexities of local, national, regional and global regulations, the vagaries of global financial and energy markets, the uncertainties of political developments and the inevitability of technical advances, and the picture becomes even more perplexing.

So, how does a newcomer to the industry have any chance to making sense of it all? Where does he or she go to get a basic understanding of what 'bunkering' is all about, how it works and who is involved? How can a bunker trader or laboratory chemist, chief engineer or banker, maritime lawyer or barge operator ever find out how and where they fit into this massive jigsaw? And how can they begin to learn, develop their skills and acquire the know-how?

To this end, I warmly welcome Nigel Draffin's work, *An Introduction to Bunkering*, which addresses all these issues simply and effectively. I am sure the wealth of information in this book will shed a great deal of light into this most labyrinthine of industries.

This book covers every aspect of bunkering, from its history and early development right through to the latest environmental legislation, newest delivery procedures and quality specifications, and – importantly – health and safety considerations.

It is written in a clear, easily understood style that addresses the issues and answers the questions that everyone – from the newest student to the most experienced practitioner – will want to understand. And, helpfully, it contains a wealth of diagrams, charts and photographs which will greatly assist anyone who has not yet had the chance to sail onboard a ship, set foot on a bunker barge, visit a testing laboratory or sit in an oil trader's office. Its extensive index allows the reader to quickly find explanations to technical words or phrases, while the appendices point readers towards other places they might look for help.

The Port of Singapore has long been at the forefront of developing standards for the benefit of the industry. Our pioneering standard, the Singapore Standard Code of Practice for Bunkering, has been recognised as an international benchmark, with the International Organization for Standardization (ISO) adopting this standard as the base document in the development of an international bunkering protocol. Playing a leading role, the Maritime and Port Authority of Singapore (MPA) has steered the Port of Singapore towards the peak in the industry. In 2007, the volume of bunkers sold in the port scaled a new high, crossing the 30 million tonnes mark for the first time, to reach 31.5 million tonnes and surpassing 2006's figures by 11.2%. This achievement

once again maintained our position as the world's top bunkering port and reflects our customers' confidence in the quality of bunkering services in Singapore.

This book notes our contribution and meets a need in the industry which we have long recognised. I believe that *An Introduction to Bunkering* will leave every reader significantly better informed about how this truly global industry works.

Congratulations!

**Capt M Segar**  
**Director (Port) / Port Master**  
**Maritime and Port Authority of Singapore**

May 2008

# Preface

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In September 2007, after the *Oxford Bunker Course*, I was asked if I would consider writing a short book on the basics of bunkering. Some of you who know me will be aware that I have been writing, talking, even singing about the need for training and education in our industry. In a moment of weakness I agreed and went home to consider what sort of book it should be.

There are a few very good books on bunkering but they are learned works, covering the topics in great detail and requiring some previous knowledge about ships and bunkering. I decided I would try to produce a book that would sit comfortably on the desk of anyone who had to deal with the bunkering of ships, whatever their experience or training, where they could find simple answers to the majority of questions that I have been asked over the past 42 years.

The job took longer than I expected and made me return to my textbooks and research many things to make sure that what I wrote was reasonably accurate and not misleading. I was determined to provide a comprehensive index, but I am sure that it will never be perfect, such is life.

Sending the finished text with drawings and figures to the publisher was only the start of the journey as it was followed with weeks of questions, corrections and emails seeking permission to include figures, tables and drawings in the book whilst respecting the copyright of others. I only hope that we have managed to provide useful and relevant data, practical illustrations and enough pictures to help those who have never seen many of the 'bits' we talk about each day to understand exactly what bunkering is all about.

I believe that the information in this book is just as relevant to vessel charterers, ship operators, marine lawyers and port agents as it is to buyers and sellers of marine fuel.

Every book is the product of a team, not just the author and publisher. I sent chapters to colleagues and friends to ask for their comments, thoughts and corrections. The team at Petrosport worked really hard to knock it into shape and everyone I asked to help did so promptly, willingly and without making me feel inadequate.

The principal of my company sent me an email (after reading the book on a transatlantic flight) with about 20 suggestions of 'things junior brokers have asked me over the last 25 years'. Almost all were things I had not thought of. None had been picked up by the friends who had read each chapter but all are now part of the book. My only concern is how much else have I left out?

You, the reader, will determine if the book is worthwhile. I have enjoyed writing it and if it helps you to understand what we do a little better, then it will have all been worthwhile.

**Nigel Draffin**, May 2008

### About the author

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Nigel Draffin has been involved in shipping for over 42 years and with the commercial bunker market for over 22 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 liquefied natural gas (LNG) tankers.

He came ashore in 1979 to join the newbuilding department of Shell International Marine. After two years of new construction in Ireland, 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 twice on its council of management. He currently serves as co-ordinator of the Education Working Group and is the author of *IBIA's Basic Bunker Course*. He is a member of the Institute of Marine Engineering Science and Technology and Past Master of the Worshipful Company of Fuellers.

Nigel is a born communicator and dedicated teacher, whose simple style and vast knowledge of the subject mean that he is consistently voted one of the most effective lecturers on the courses he teaches. His contributions to the well-established *Oxford Bunker Course* over the past decade or so stand out for particular attention, as much for his teaching abilities as for his undeniable social skills.

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

May 2008



## Acknowledgements

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The author extends his thanks to everyone who has helped in the creation of *An Introduction to Bunkering*, particularly Angus Ogilvie, Chris Fisher, Capt Phil Julian and Gerry van Geyzel, who have cast an eye over the text and 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 then seeing it through, and, in particular, Alison Parsons, who has seamlessly designed and produced the finished article.



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