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# Bunker Fuel Blending

4 Modules

23-26 March 2021 | 1:30pm-5:30pm(SGT) | Live Online Training

**2+1  
Offer!**

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registration  
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details!



Delivered in **Live Online Training** Format

**Course  
Director**



**Keith Forget**, Marine Fuels and Lubricants Consultant

Keith has been an independent consultant on Marine fuels & lubricants for over 10 years, following his successful 40 years' career at Shell where he developed and managed Fuel Quality and R&D Activities, Fuel Oil Quality Assurance System and HSE & emission regulations. He also consulted global bunker suppliers, shipowners, classification including DnV Petroleum Services, Alfa Laval Tumba, Vroon Offshore Services, Oldendorff Carriers, Norddeutsche Reederei, H. Schuldt GmbH & Co. KG and many more.

## Key Learning Outcomes & Case Studies Include

- ▶ Blending properties' calculation, pricing & application
- ▶ Blending components compatibility
- ▶ Blend control and QA
- ▶ Optimisation in Bunker fuel blending
- ▶ Lab testing and Industry standards (ISO 8217, SS 524 & 600, ISO 9001, 17025, ASTM/IP/ISO test methodology etc)
- ▶ Bunker blending economics and Profit Blend Optimiser

# Bunker Fuel Blending

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## ABOUT THE COURSE

This 4-module seminar will provide participants with technical and advanced practical guidelines on blending heavy fuel oil. Since IMO 2020, the importance of ensuring fuel specifications, compatibility, stability as well as optimisation methods cannot be understated.

Throughout the course, our expert with unparalleled knowledge of fuel oil technologies will enable participants to attain thorough understanding and exercises on all blending properties' calculation, pricing, applications; blending control & QA; the changing standards, blending economics and best practices for maintaining sulphur compliance.

## WHO WILL BENEFIT

This course provides comprehensive knowledge of technical requirements and tools required in blending sulphur fuel to meet IMO requirements, quality assurance, and is essential for:

- Bunker Traders, Operators, Suppliers
- Bunker Marketers, Fuel Oil Marketers, Refinery Managers, Labs Operators
- Quality Assurance, Claims Managers
- Commercial executives who wish to gain technical understanding such as Blending Economics, Fuel Storage & Handling, Fuel Stability & Compatibility issues, among others

## COURSE DIRECTOR



### Keith Forget

Marine Fuels and Lubricants Consultant

Prior to his 10 years as an independent consultant, Keith spent more than 40 years with Shell across various positions ranging Fleet Engineer (Shel Tanker UK) to Technical Advisor and Global Product Manager. His responsibilities included:

- Global Technical Manager & Product Manager at Shell Marine Products (since 1997): Developed and managed Fuel Quality and all R&D Activities including Fuel Oil Quality Assurance System. All fuels and lubricants support to customers, internal & external bodies as well as on HSE & emissions regulations
- Technical Advisor at Shell International Trading (since 1981): Development & launch of lubricants analyses service (RLA). Management of fuel quantity & quality complaints.

Keith has also consulted global bunker suppliers, shipowners, classification including DnV Petroleum Services (now Veritas Petroleum Services), Alfa Laval Tumba, Vroon Offshore Services, Aberdeen Ltd., Oldendorff Carriers, Norddeutsche Reederei, H. Schuldt GmbH & Co. KG, Arq UK Ltd. He is also:

- Active member of CIMAC Heavy Fuels working group and ISO working group (WG6) that developed ISO8217:2010 (MEPCs 57/58/59/60 and BLG/12.)
- Advisor on marine fuel to the UK Maritime and Coastguard Agency delegation during the development of the revised MARPOL Annex VI – 2009 edition.
- Member of the 3rd MRDAP sponsored by Singapore's MPA (2007 - 2009)
- Chairman of International Bunker Conference 2015

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## WHAT PAST PARTICIPANTS SAID

*"The programme is in-depth offered me a good overview of the IMO 2020, and confirmed my previous understanding"*

Legal Counsel, Vale International Singapore

*"Programme's content is well developed, good size of participants, great interactions with trainers and attendees over 2 days"*

Operations Executive - Marine, Singapore Petroleum Company

*"A lot of knowledge is shared on blending operations know-how, the calculations and economics as well as legal issues"*

Trading Manager, Marubeni International Petroleum

# Bunker Fuel Blending

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- Module Commencement: **1:30pm** (SGT)
- Module Conclusion: **5:30pm** (SGT)

Timing is based in Singapore Time (GMT+8) unless otherwise stated. These timing schedules act as a guide and may be modified slightly on the depth of class discussion and whether assessments are being conducted.

## 4-Module Course Syllabus

### MODULE 1

#### GENERAL INTRODUCTION

- Brief explanation course program
- Various types of blending – overview
- Why blending is necessary

#### INTRODUCTION TO FUEL OIL

- What is fuel oil, brief history
- Manufacturing routes Blend stock components and their properties.
- Supply and demand trends toward 2021

#### SPECIFICATIONS, COMPONENTS AND TEST METHODS

- ISO 8217 and latest changes
- Relevance of individual properties and test methods
- Fit-for-purpose versus on-spec
- Blend stock components and their properties

#### STABILITY AND COMPATIBILITY OF BUNKER FUEL

- Fundamentals of asphaltene stability
- Current test methods
- Best Practices and Exercise: Prediction of asphaltene stability

### MODULE 2

#### BUNKER FUEL BLENDING, COMPONENTS AND TOOLS

- Blending systems (in tank, in-line, in-line with ratio control)
  - » In-line blending – advantages and key considerations
  - » Inventory reduction
  - » Tankage minimisation
  - » Tank capacity and quality management
- Linear and Non-Linear blending rules (including exercises)
- Unusual blending components
- Blending software and equipment

#### BLEND CONTROL AND QUALITY ASSURANCE

- Quality management
- Documentation
- MARPOL Samples
- Reproducibility and repeatability of tests
- Optimisation Output results

#### STORAGE AND HANDLING OF BUNKER FUEL BLENDING ECONOMICS

- Fuel oil tanks
- Mixing systems
- Additives

### MODULE 3

#### LABORATORIES TESTING AND ON-LINE TESTING

- Role of the laboratory (including repeatability and reproducibility)
- Discussion of the benefits of laboratory testing and online testing
- Various types of on-line testing methods
- Lab testing standards (ISO 9001, 17025, ASTM/IP/ISO test methodology, SS524 & 600)

#### BLENDING ECONOMICS

- Blending tools and optimisation
- Single and multi-blend optimisation
- Quality give-away
- Ensuring the maximum profit from a blend

#### BLENDING FOR 0.5% SULPHUR COMPLIANCE

- Current status
- Impact on bunker fuel customers
- Impact on fuel oil quality and pricing
- Necessary components for 0.5% LSFO Blending
- Challenges and problems expected
- Ensuring stability and Compatibility
- Avoiding off spec fuel from blending operations

### MODULE 4

#### BUNKER FUEL COMPLAINTS

- Survey and updates of fuel oil complaints
- Examples of problem fuels (including exercise)
- ISO 4259 for dispute handling

#### LIABILITY AND CLAIMS HANDLING (GUEST SPEAKER: GERALD YEE - RPC SINGAPORE)

- Responsibilities for bunker fuel quality
- Warranties under bunker supply contract
- Contamination of bunkers and blend incompatibility
- BIMCO Bunker quality & liability clause
- ISO 8217
- Potential legal claims (Charterers vs Contractual Bunker Suppliers vs Physical Bunker Suppliers vs Owners)
- Claims and claims handling
  - » Bunker supplier defense

#### BUNKER FUEL HSE ASPECTS

- Health and safety aspects
- Emissions
- Legislation

#### WRAP-UP

- Q+A session
- Course evaluation

# Bunker Fuel Blending

Informa Connect is A Trading Name of IBC Asia (S) Pte Ltd

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## 4 Easy Ways to Register

- 1 Telephone**  
Customer Service Hotline +65 6973 3567
- 2 Email**  
sgtraining@informa.com
- 3 Fax**  
+65 6508 2407
- 4 Web**  
www.informaconnect.com.sg/bunkerfuel

## Bunker Fuel Blending

Course Codes	Location	Course Dates	Standard Price	4+ Dels Discount
P21GT37SGV	Live Online Training	23 - 26 March 2021	SGD 2,876	<b>Great Savings:</b> Register 2 and third attends free. Call us today on +65 6973 3567 or email sgtraining@informa.com to take advantage of the discount offer.

A 7% Goods & Services Tax (GST) is applicable to all Singapore based companies.

<b>Delegate 1 Details</b> Name: Dr/Mr/Ms _____ Job Title: _____ Department _____ Tel: _____ Mobile No.: _____ Email: _____	<b>Delegate 2 Details</b> Name: Dr/Mr/Ms _____ Job Title: _____ Department _____ Tel: _____ Mobile No.: _____ Email: _____
<b>Delegate 3 Details</b> Name: Dr/Mr/Ms _____ Job Title: _____ Department _____ Tel: _____ Mobile No.: _____ Email: _____  Who is Head of your Department? _____	<b>Delegate 4 Details</b> Name: Dr/Mr/Ms _____ Job Title: _____ Department _____ Tel: _____ Mobile No.: _____ Email: _____  Who is Head of Training? _____
<b>Company Information</b> Company Name: _____   Main Business/Activity: _____ Address: _____   Postal Code: _____	

Please photocopy for additional delegates

### Payment Method (Please tick):

- I enclose my bankers draft / cheque payable to IBC Asia (S) Pte Ltd
- I am paying by bank transfer (copy attached)
- Payment by Credit Card. (AMEX, VISA or MasterCard accepted)

### CREDIT CARD PAYMENTS

The best way to pay by credit card is through our secure on-line registration process, simply log on to the website at [www.informaconnect.com.sg/bunkerfuel](http://www.informaconnect.com.sg/bunkerfuel) and click "Register On-line". If you would prefer to pay over the phone please complete the contact name and details and our Customer Services Team will call within 24 hours to take payment. As we treat your credit card information in the strictest confidence, please do not send payment details by email.

Credit card contact: \_\_\_\_\_ Department: \_\_\_\_\_

Direct phone number: \_\_\_\_\_ Email: \_\_\_\_\_

### PAYMENT TERMS

Payment must be received 10 business days prior to the event. To take advantage of discounts with an expiry date, registration and payment must be received by the cut-off date.

- Payment by bankers draft or cheque in S\$ or US\$ should be made in favour of "IBC Asia (S) Pte Ltd" and mailed to:  
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103 Penang Road, Visioncrest Commercial #04-01, Singapore 238467  
Attn: The Accounts Receivable Team
- Payment by bank transfer in S\$ or US\$ made payable to:  
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A/C No.: 147-059513-001 (S\$)  
A/C No.: 260-457866-178 (US\$)  
The Hongkong and Shanghai Banking Corporation Limited 21 Collyer Quay, HSBC Building Singapore 049320  
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Bank Code: 7232
- Payment by Credit Card (AMEX, VISA or MasterCard). The best way to pay by credit card is through our secure portal built into the website. To pay by phone please indicate the contact name and details below and our Customer Services Team will call within 24 hours to take payment. Please do not send credit card information by email.

### CANCELLATIONS / SUBSTITUTION

Should you be unable to attend, a substitute delegate is welcome at no extra charge. Cancellations must be received in writing at least 10 business days before the start of the event, to receive a refund less 10% processing fee per registration. The company regrets that no refund will be made available for cancellation notifications received less than 10 business days before the event.

### IMPORTANT NOTE

Please quote the name of the delegate, event title and invoice number on the advice when remitting payment. Bank charges are to be deducted from participating organisations own accounts. Please fax your payment details (copy of remittance advice, cheque or draft to +65 6508 2407).

Attendance will only be permitted upon receipt of full payment. Participants wishing to register at the door are responsible to ensure all details are as published. Informa Connect Singapore assumes no further liability or obligation, beyond the refund of the paid registration fee, in the event of postponement or cancellation by Informa Connect Singapore.

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