



Fuel Oil & Fuel Oil Blending

Consultant / Trainer:

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The **Petrogenium**. Fuel Oil & Fuel Oil Blending course will provide an introduction into marine fuel oil, its uses, specifications & components. In addition numerous best practices on blending product, guidelines to optimize product quality, assure stability and minimize give-away are covered. Various case studies will address real-life problems.

Participants

This **Petrogenium**. course can be tailored for awareness/inexperienced staff, for intermediate and for experienced personnel. Furthermore the course can be customized for a specific refinery, plant or unit. The option for post-course consultancy/help-desk support is also available.

Participants may include: technical staff, supervisors and managers in refining, marketing, trading, economic planning and laboratories who need better technical understanding of bunker fuel and bunker fuel blending; it is also highly suited for Fuel oil traders as well as bunker operators.

Learning Objectives

Increase participants knowledge on the fuel oil business. Understand ISO standards, blending rules, and compatibility of blend components. How to optimize bunker fuel blending and control fuel oil quality. Understand the role of sampling and lab testing. Introduction to fuel oil economics. Discuss typical fuel oil complaints and complaints handling.

The course can be given as a 2-day training or as 4-5 half days.

Programme

Day 1

Introduction to Fuel Oil

- *What is fuel oil, brief history; Manufacturing routes*
- *Blendstock components & their properties; Supply & demand trends*

Specifications, Components & Test Methods

- *ISO 8217 & latest changes; Relevance of individual properties & test methods*
- *Fit-for-purpose vs on-spec; Developments & future changes*

Stability & compatibility of bunker fuel

- *Fundamentals of asphaltene stability, Current test methods; Prediction of stability & compatibility*
- *Exercise on fuel oil stability; Case studies on bunker oil stability problems*

Bunker fuel blending, components & tools

- *Why blending? Blending systems (in tank, in-line, in-line with ratio control)*
- *Blending rules; unusual blending components; blending software & equipment*
- *Exercise on viscosity blending*

Day 2

Blend control & quality management/assurance; MARPOL samples

Storage & handling of bunker fuel (tanks, mixing systems; additives)

Laboratory testing & on-line testing

- *Benefits laboratory testing & on-line testing; types of on-line testing methods*
- *Lab testing standards (ISO9001/17025, ASTM/IP/ISO test methodology)*

Blending economics

- *Blending tools & optimisation; single & multi-blend optimisation, Quality give-away*
- Blending for 0.5% sulphur compliance (MARPOL)

- *Current status; components for 0.5% VLSFO blending; challenges & problems;*
- *Ensuring stability & compatibility; avoiding off-spec fuel from blending operations*

Bunker fuel complaints

- *Survey fuel oil complaints; examples of problem fuels*
- *ISO 4259 for dispute handling & Complaint handling exercise*

Liability & claims handling

- *Responsibilities for bunker fuel quality; warranties under bunker supply contract*
- *Contamination of bunkers & blend incompatibility; BIMCO bunker quality & liability clause; ISO 8217*
- *Potential legal claims and Bunker supplier defence*
- *Bunker fuel HSE aspects*