SESSIONS

2019 AGENDA DAY 1 - 29/10/2019

Registration

08:30 - 09:00

COURSE INTRODUCTION TO LOW FLASH POINT FUELS: Why low flash point fuels?

09:00 - 09:30

This session will introduce the (environmental) drivers for changes in fuel use including

- How fuel use impacts the environment
- IMO and 2020
- ECAs and SECAs
- Alternative options for cleaner shipping – other low flash point fuels

Participants

David Haynes - Director & Principal Consultant at Penguin Energy Consultants & Technical Advisor, SGMF, Penguin Energy Consultants

Use of LNG as a marine fuel

09:30 - 10:00

This session will look at how the shipping (and other transport) industry are adapting to current regulatory requirements

- How many ships are operating on LNG and where
- What does the LNG infrastructure look like?
- What is the future perception of fuel use
- Are there any analogies with other industries?

Participants

David Haynes - Director & Principal Consultant at Penguin Energy Consultants & Technical Advisor, SGMF, Penguin Energy Consultants

Morning Coffee

10:00 - 10:30

PROPERTIES AND BEHAVIOR OF LNG: Introduction to the properties and behavior of LNG

10:30 - 11:15

This session will look at how LNG behaves in storage and in use. Topics covered will include:

- What are liquefied gases?
- Compositions of fuels
- Physical properties

Participants

Ray Gillett - General Manager, GTT Training

Introduction to the properties and behavior of LNG - continued

11:15 - 12:00

This session will provide a background to the key physical characteristics of LNG. Learn how LNG behaves in different conditions to better understand how this can influence design, safety and operational decisions when using LNG as a fuel for ships.

Participants

Ray Gillett - General Manager, GTT Training

Networking Lunch

12:00 - 13:00

MANAGEMENT OF SAFETY : Impact of spills on humans, equipment and environment

13:00 - 13:45

This session will look at the implications of using LNG should it escape its containment systems. Topics covered will include:

- How do liquefied gases behave when spilled – gas dispersion
- Ignition and fire fighting
- Impact of liquefied gases on humans - medical emergencies

Participants

David Haynes - Director & Principal Consultant at Penguin Energy Consultants & Technical Advisor, SGMF, Penguin Energy Consultants

Safety management

13:45 - 14:30

Safely managing LNG requires a different culture to traditional liquid based fuels. This session will look at the management systems that can be implemented to produce this; topics covered will include:

- Implications of the ISM Code
- Requirements for training

Participants

Ray Gillett - General Manager, GTT Training

Afternoon Coffee

14:30 - 15:00

RISK ASSESSMENT: Risk assessment methods

15:00 - 15:45

- When are risk assessments required?
- Stages of a risk assessment
- Overview of some available methods
- How to do a risk assessment

Participants

Ray Gillett - General Manager, GTT Training

Case Study

15:45 - 16:30

Delegates in groups, perform a risk assessment exercise.

Participants

Ray Gillett - General Manager, GTT Training

Debriefing session and close of day 1

16:30 - 17:00

Review key take-away points from the day's sessions, share questions with the course leader and fellow course attendees to clarify areas of uncertainty.

Participants

David Haynes - Director & Principal Consultant at Penguin Energy Consultants & Technical Advisor, SGMF, Penguin Energy Consultants

End of day one

17:00 - 17:05

SCHEDULE

2019 AGENDA DAY 1 - 29/10/2019

TIME	
08:00	**08:30** - Registration
09:00	**09:00** - COURSE INTRODUCTION TO LOW FLASH POINT FUELS: Why low flash point fuels? **09:30** - Use of LNG as a marine fuel
10:00	**10:00** - Morning Coffee **10:30** - PROPERTIES AND BEHAVIOR OF LNG: Introduction to the properties and behavior of LNG
11:00	**11:15** - Introduction to the properties and behavior of LNG - continued
12:00	**12:00** - Networking Lunch
13:00	**13:00** - MANAGEMENT OF SAFETY : Impact of spills on humans, equipment and environment **13:45** - Safety management
14:00	**14:30** - Afternoon Coffee
15:00	**15:00** - RISK ASSESSMENT: Risk assessment methods **15:45** - Case Study
16:00	**16:30** - Debriefing session and close of day 1
17:00	**17:00** - End of day one

SESSIONS

2019 AGENDA DAY 2 - 30/10/2019

Morning Coffee

08:45 - 09:00

Normal vessel operations: Safety in design

09:00 - 09:45

- How safety is included in the design process via the IGF Code. Discussion of topics such as:
- Fuel system arrangement
  - Control systems and safety mechanisms
  - Tank location

Participants

Ray Gillett - General Manager, GTT Training

Fuel supply & use equipment

09:45 - 10:30

LNG is used as a gas but stored as a liquid. This session will give an overview of how LNG is supplied and the impacts of consumption on operation and design including

- Engine/generator selection
- Need for pumps and compressors
- Vaporisation requirements and equipment

Participants

Ray Gillett - General Manager, GTT Training

Morning Coffee

10:30 - 11:00

Fuel storage

11:00 - 11:45

The gaseous nature of LNG requires different storage solutions to traditional liquid fuels. The containment system can greatly influence design. This session explores different tank systems

- Pressurised (Type C) tanks
- Unpressurised (Type A, B & membrane) tanks
- Understanding the key differences in fabrication, location and use

Participants

Ray Gillett - General Manager, GTT Training

Vessel operations

11:45 - 12:30

This session will address how the fuel system needs to adapt for "normal" ship operations such as sailing and moored alongside. Topics covered will be

- Implications of major load changes on fuel system operation
- What happens when changing fuels
- Management of storage tank pressures

Participants

Ray Gillett - General Manager, GTT Training

Lunch

12:30 - 13:00

Bunkering (I) : Bunkering methods and equipment

13:00 - 13:45

Transfer of fuel requires temporary connections between a gas-fuelled vessel and the bunker supplier. There are many different options and this session will investigate these including

- Bunker vessel, road tanker and ISO container fuel supply
- Hose and fixed transfer systems including connectors

Participants

David Haynes - Director & Principal Consultant at Penguin Energy Consultants & Technical Advisor, SGMF, Penguin Energy Consultants

Bunkering safety

13:45 - 14:30

The temporary systems used for bunkering provide additional challenges for safe and responsible operation. This session will explore some of these issues including

- Controlled zones
- SIMOP issues
- PPE

Participants

David Haynes - Director & Principal Consultant at Penguin Energy Consultants & Technical Advisor, SGMF, Penguin Energy Consultants

Afternoon Coffee

14:30 - 15:00

Site visit to Enagas Barcelona Terminal

15:00 - 16:30

Delegates will visit the Barcelona LNG terminal. After a safety briefing, the site tour will include a visit to a LNG tanker loading facility and show the main functions of this large LNG terminal. Please remember to bring I.D with you. You may not gain entry to the site visit without it.

End of day 2 and Coach drop back to hotel

16:30 - 17:30

Site visit to the ENAGAS LNG Terminal.

Please remember to bring I.D with you. You may not gain entry to the site visit without it.

SCHEDULE

2019 AGENDA DAY 2 - 30/10/2019

TIME	
08:00	**08:45** - Morning Coffee
09:00	**09:00** - Normal vessel operations: Safety in design **09:45** - Fuel supply & use equipment
10:00	**10:30** - Morning Coffee
11:00	**11:00** - Fuel storage **11:45** - Vessel operations
12:00	**12:30** - Lunch
13:00	**13:00** - Bunkering (I) : Bunkering methods and equipment **13:45** - Bunkering safety
14:00	**14:30** - Afternoon Coffee
15:00	**15:00** - Site visit to Enagas Barcelona Terminal
16:00	**16:30** - End of day 2 and Coach drop back to hotel

SESSIONS

2019 AGENDA DAY 3 - 31/10/2019

Morning coffee

08:45 - 09:00

Bunkering (II): Bunkering operations

09:00 - 09:45

This session will step through each stage of a LNG transfer process covering

- Preparation and check lists
- Hose inspection, testing and connection
- Fuel transfer (bunkering)
- Completion of bunkering including draining and purging

Participants

David Haynes - Director & Principal Consultant at Penguin Energy Consultants & Technical Advisor, SGMF, Penguin Energy Consultants

Bunkering operations - continued

09:45 - 10:30

Participants

David Haynes - Director & Principal Consultant at Penguin Energy Consultants & Technical Advisor, SGMF, Penguin Energy Consultants

Morning coffee

10:30 - 11:00

Custody transfer

11:00 - 11:45

This session will cover the measurement of fuels, both in terms of quantity and composition. Topics will include

- How fuels are bought and sold
- What measurements are required
- How key parameters such as quantity and quality are calculated

Participants

David Haynes - Director & Principal Consultant at Penguin Energy Consultants & Technical Advisor, SGMF, Penguin Energy Consultants

Other operations : Maintenance, inspection and repair

11:45 - 12:30

The ways LNG behaves also has implications for ship board and dry-dock maintenance procedures. This session will look at the implications:

- Maintenance on board
- Dry-docking
- Gas-freeing and gassing up fuel tanks

Participants

David Haynes - Director & Principal Consultant at Penguin Energy Consultants & Technical Advisor, SGMF, Penguin Energy Consultants

Lunch

12:30 - 13:30

Economics : Markets and economics

13:30 - 14:15

This session will look at the economics of LNG. Topics covered will include:

- Bulk LNG/gas pricing
- How bulk LNG pricing is reflected in LNG bunker costs
- LNG price links to other fuels

Participants

David Haynes - Director & Principal Consultant at Penguin Energy Consultants & Technical Advisor, SGMF, Penguin Energy Consultants

Case study round up

14:15 - 15:00

Participants

David Haynes - Director & Principal Consultant at Penguin Energy Consultants & Technical Advisor, SGMF, Penguin Energy Consultants

Close of course and certificate collection & Afternoon Coffee

15:00 - 15:30

SCHEDULE

2019 AGENDA DAY 3 - 31/10/2019

TIME	
08:00	**08:45** - Morning coffee
09:00	**09:00** - Bunkering (II): Bunkering operations **09:45** - Bunkering operations - continued
10:00	**10:30** - Morning coffee
11:00	**11:00** - Custody transfer **11:45** - Other operations : Maintenance, inspection and repair
12:00	**12:30** - Lunch
13:00	**13:30** - Economics : Markets and economics
14:00	**14:15** - Case study round up
15:00	**15:00** - Close of course and certificate collection & Afternoon Coffee