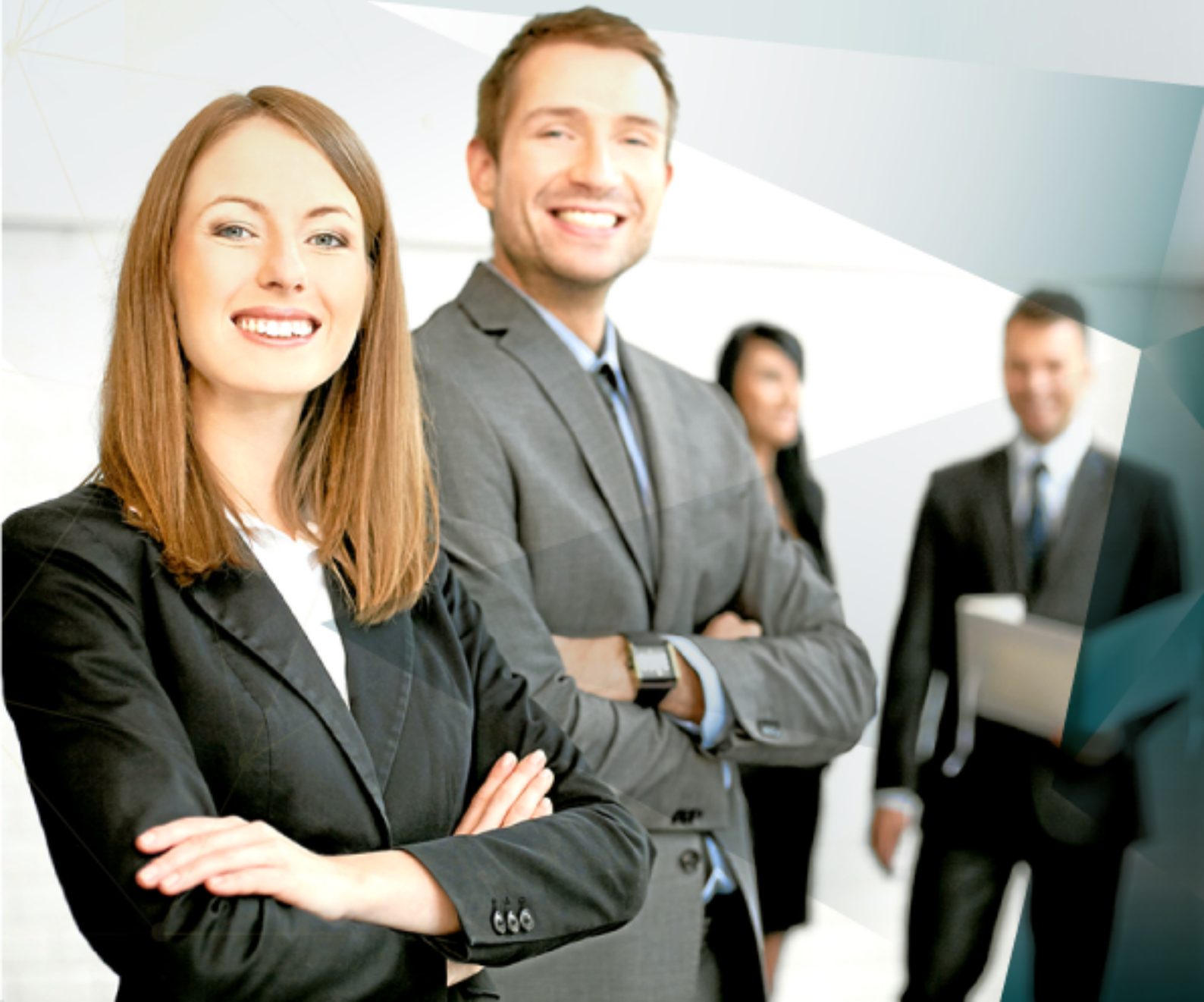
MERCURY

Managing the Bunkering and Use of LNG Fuel on Ships



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Introduction:

For all vessel operators, the issue of environmental pollution is becoming increasingly problematic. The requirements to comply with MARPOL Annex 6 have made air pollution one of the areas which ship owners and operators will have to address. Using LNG as a fuel is one way to reduce airborne pollution from ships. It also has different problems to address when operating a vessel with LNG on-board as a fuel. This training course is intended to highlight these issues and provide a means to manage them. The IGF Code details the requirements of ships using LNG as a bunker fuel, and this PetroKnowledge training course will provide an insight into the means to comply with that code

Targeted Groups:

- Senior Management with high-level responsibility for vessel operations
- Fleet Managers
- Technical Managers
- Vessel personnel
- Personnel at the vessel/ bunker facility interface

Course Objectives:

At the end of this course the participants will be able to:

- Understand why using LNG fuel can be beneficial
- Manage the use of LNG fuel on ships
- Communicate with bunker terminals and suppliers
- Manage any emergencies involving LNG fuel
- Understand the different fuel system configurations

Targeted Competencies:

- Design and operational characteristics of ships subject to the IGF Code
- Precautions to minimize and manage hazards on a ship subject to the IGF Code
- Precautions to prevent pollution of the environment
- Monitoring and controlling compliance with legislative requirements
- Application of occupational health and safety measures

Course Content:

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Unit 1: Definitions of Liquefied Gases and Associated Regulations:

- IGF Code
- Defining LNG Fuel
- Properties of LNG
- Combustion properties
- Pollution characteristics
- Understanding Cryogenics
- Production and properties of LNG
- Components of LNG

Unit 2: Health Safety and Environmental Issues and Combustion Theory:

- Thermodynamic Laws
- Methane Number/ Knocking
- Gas detection Methods
- Electrostatic issues
- Toxicity
- Health and Safety
- Environmental Hazards

Unit 3: Managing LNG Fuels in a Safe Manner:

- Brittle fracture
- Fuel Storage systems
- Tank Gauging systems
- Safety Devices
- Fuel system arrangements
- Managing LNG as a fuel

Unit 4: LNG Bunkering Systems and Their Operational Use:

- Physical layouts
- Onboard containment systems
- Electrical safety
- Hazardous zones
- Fuel transfer process
- Safety plans and instructions
- Bunker Checklists
- Inerting warm-up and cooldown

Unit 5: SIMOPs Emergency Response and ESD Systems:

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- Bunkering installations
- SIMOPs
- Emergency response
- Protective clothing
- Repair and maintenance issues
- Emergency Shut Down
- Safety Management System
- Dealing with health issues Cold Burns