

## TANKER FAMILIARIZATION PROGRAM

### BASIC OIL & CHEMICAL TANKER FAMILIARIZATION

#### PURPOSE OF THE COURSE

This course provides individuals in the petrochemical industry with understanding of their responsibility in loading, discharging and care in transit or handling of dangerous liquid cargo. It provides them knowledge appropriate to their duties, including oil tanker safety, fire safety measures and systems, pollution prevention, operational practice and obligations under applicable law and regulations. In reference to section A-V/1 of the STCW Code adopted by the International Convention on Standards of Training, Certification and Watch Keeping for Seafarers, 1978, as amended 2010. The syllabus is in accordance with the provisions of Section A-V/1 of STCW and this course is NMSA approved.

#### THE OBJECTIVE OF THE COURSE

The objective of this Basic Oil & Chemical Tanker Familiarization course is to provide candidates with the mandatory minimum requirements for the training and qualifications of masters, officers and ratings on oil and chemical tankers or in the petrochemical industry and in doing so, satisfy company, national, and international regulations for candidates for certification as Tankerman-PIC DL as follows:

Table A-V/1-1-2 & 3, Specification of minimum standard of competence in basic training for oil and chemical tanker cargo operations.

#### COURSE OUTCOME

Successful completion of this tank ship familiarization course should enable candidates to serve on oil tankers in a capacity other than master, chief engineer, chief mate or first assistant engineer, and to perform specific duties and responsibilities related to those duties in connection with cargo and cargo equipment, provided that they are not immediately responsible for the loading, discharging, care in transit or handling of cargo. The training includes basic safety and pollution prevention precautions and procedures, layouts of different types of oil tankers, types of cargo, their hazards and their handling equipment, general operational sequence and oil tanker terminology. The syllabus covers the requirements of the STCW Convention, Chapter V, Section A-V/1-1, as amended. This functional

element provides the detailed knowledge to support the training outcomes related to the specification of minimum standard of competence in basic training for oil and chemical tanker cargo operations. Students will gain knowledge of and be able to:

#### Contribute to the safe cargo operation of oil and chemical tankers:

- Basic knowledge of tankers:
  1. Types of oil and chemical tankers
  2. General arrangement and construction
- Basic knowledge of cargo operations:
  1. Piping systems and valves
  2. Cargo pumps
  3. Loading and unloading
  4. Tank cleaning, purging, gas-freeing and inerting
- Basic knowledge of the physical properties of oil and chemicals:
  1. Pressure and temperature, including vapor pressure/temperature relationship
  2. Types of electrostatic charge generation
  3. Chemical symbols
- Knowledge and understanding of tanker safety culture and safety management.

#### Take precautions to prevent hazards:

- Basic knowledge of hazard associated with tanker operations
- Basic knowledge of hazard controls
- Understanding of information on a Material Safety Data Sheet

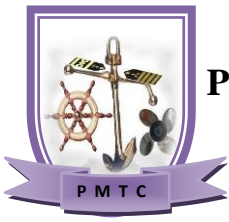
#### Apply occupational health and safety precautions and measures:

- Function and proper use of gas-measuring instruments and similar equipment
- Proper use of safety equipment and protective devices
- Basic knowledge of safe working practices and procedures in accordance with legislation and industry guidelines and personal shipboard safety relevant to oil and chemical tankers
- Basic knowledge of first aid with reference to a Material Safety Data Sheet (MSDS)

#### Carry out fire-fighting operations

#### Respond to emergencies

#### Take precautions to prevent pollution of the environment from the release of oil or chemicals.



**OUTLINE**

This course content will cover the following areas.

**1.0 Introduction**

- 1.1 Oil Tankers
- 1.2 International and National Regulations Concerning Oil Tankers

**2.0 Basic Properties of Petroleum and its Hazards**

- 2.1 Basic Physics
- 2.2 Properties of Petroleum
- 2.3 Hazards Associated with the Handling and Carriage of Petroleum
  - a. Toxicity in General
  - b. Toxicity of Petroleum
  - c. Toxicity of Inert Gas
  - d. Oxygen Deficiency
  - e. Flammability and Explosiveness
  - f. Electrostatic Hazards
  - g. Hazards to the Marine Environment

**3.0 Safety**

- 3.1 General Precautions
- 3.2 Entry into Enclosed Spaces
- 3.3 Precautions against Electrostatic Hazards
- 3.4 Gas Indicators
- 3.5 Fire-Fighting Principles
- 3.6 Protective Equipment

**4.0 Pollution Prevention**

- 4.1 Rules & Regulations
- 4.2 Ship and Equipment
- 4.3 Operational Pollution
- 4.4 Oil Record Book
- 4.5 Action in Case of Oil Spills
- 4.6 Air Pollution

**5.0 Oil Design and Equipment**

- 5.1 Construction
- 5.2 Pumping, Piping and Discharge Arrangements
- 5.3 Cargo Heating Systems
- 5.4 Venting Arrangements
- 5.5 Level Gauges
- 5.6 Environmental Protection Equipment

**6.0 Cargo and Ballast Pumps**

- 6.1 Pump Theory and Characteristics
- 6.2 Pressure Surge

**7.0 Oil Bunker Operations**

- 7.1 General Precautions
- 7.2 Loading and Discharging Operations
- 7.3 Stability and Stress Considerations Connected with Loading and Discharging of Cargo Loadline, Draft, and Trim
- 7.4 Ballasting and Deballasting
- 7.5 Tank Cleaning
- 7.6 Slop-Tank Operations
- 7.7 Purging and Gas-Freeing
- 7.8 Ship/Shore Liaison

**8.0 Emergency Procedures**

- 8.1 Emergency Plan
- 8.2 Emergency Alarms
- 8.3 Emergency Organization
- 8.4 Action on Discovering an Emergency

**9.0 Inert Gas Systems (IGS)**

- 9.1 General
- 9.2 The Inert Gas System
- 9.3 Inert Gas Plant
- 9.4 Scrubber
- 9.5 Inert Gas Blowers
- 9.6 Inert Gas Pressure-Regulating Valve
- 9.7 Non-Return Devices
- 9.8 Inert Gas Distribution and Venting
- 9.9 Gas-Analyzing, Recording and Indicating Equipment
- 9.10 Operation
- 9.11 Meters, Indicators and Alarms
- 9.12 Emergency Procedures
- 9.13 Maintenance and Testing

**10.0 Marine Vapor Control System (Vapor Emission Control System)**

- 10.1 Purpose and Principles
- 10.2 Operating Procedures

**11.0 Crude Oil Washing (COW)**

- 11.1 Introduction
- 11.2 Design of COW Systems
- 11.3 COW Piping
- 11.4 Tank Washing Machines
- 11.5 Pumps
- 11.6 Stripping Systems Operations

**CERTIFICATES**

On successful completion of the course, the trainee will receive a certificate of competency and completion.

**TRAINING DETAILS AND COSTS**

Duration: 5 days  
Time: 09:00am to 05:00pm  
Venue: PMTC  
Tuition Fees: K3,770 per person.  
Minimum number of persons: 10 persons

**For further information, please contact:**

Hayley Kana  
Phone: +675 72320725 / 76218379  
Email: [pmtcregistrarhk@gmail.com](mailto:pmtcregistrarhk@gmail.com)