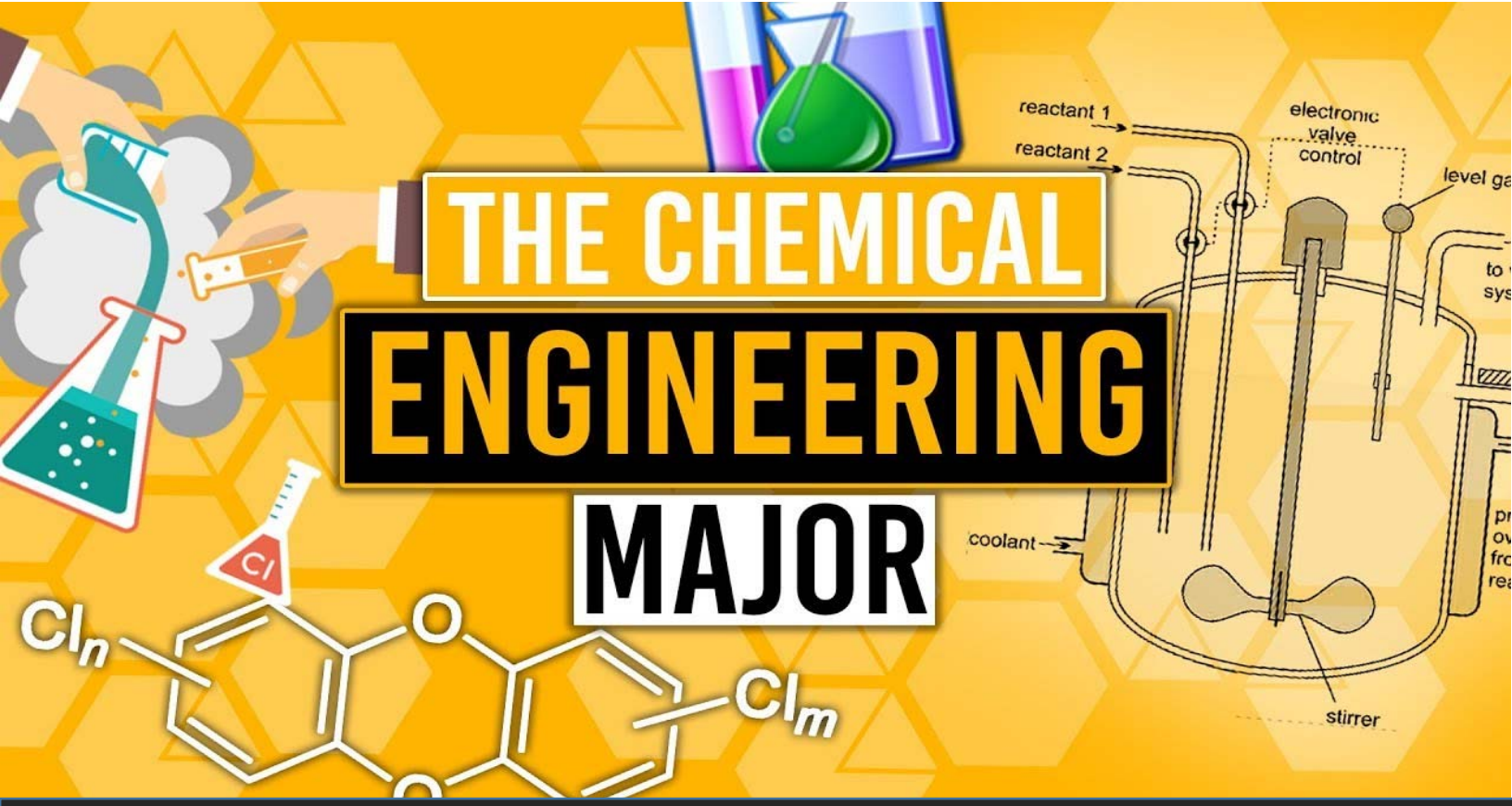

Loading Master for Oil, LNG Gas and Petrochemical Terminals

BTS
Training & Consultancy

www.btsconsultant.com

Loading Master for Oil, LNG Gas and Petrochemical Terminals

Introduction

The BTS training course will extensively cover Oil, LNG/Gas and Petrochemical Load Mastering. Including; Loading and Unloading operations at Terminals, on Tankers, Chemical and LNG Gas carriers, Management of Ship Shore operations, Role and responsibilities of a Loading Master, Cargo documentation and Calculation, Charter Party and Demurrage.

- Identify improved procedures for the handling, loading and discharging of LNG and bulk liquids
- Learn updated international guidelines and regulations concerning tankers and terminals including physical properties and types of cargoes
- Understand Quality & Quantity risk & loss and learn prevention techniques
- Improve compliance, safety and environmental performances
- Learn the technical aspects of pumps and pipeline systems including loading and discharge operations

Training Objectives
What are the Goals?

This training course covers the advanced technical Load Mastering aspects; operations, practical and commercial considerations in Liquid and Gas Load Master Operations. This includes the transportation, terminal operations, Liquid and Gas Fiscal metering, Product Quality Assurance, Ship to Facility and Terminal interface and operations, Petrochemical tanker loading and discharge procedures, product quality custody transfer measurement, LNG metering parameters, techniques and calculations.

Target Audience

Who is this Training Course for?

All personnel responsible for loading, discharging and custody transfer or handling cargoes especially oil and gas operators, vessel owners and operators, surveyors and marine superintendents. Those involve in the Liquid and Gas Facility/ Tanker and Cargo transportation business including:

- All Liquid/Gas and LNG suppliers, traders and distributors
- Ship owners and operators
- Superintendents and safety officers
- Technical and operations executives
- Charterers and traders
- Ship brokers
- Port and terminal operators
- P&I club and marine insurance

Training Methods

How will this Training Course be presented?

This 5-day practical operations course will assist petroleum, crude oil, LNG and petrochemical operators. Ensuring your operational processes and workforce perform up to the current standards, whilst also gaining a competitive advantage.

- Learn about entire Liquid/Gas and LNG process chain
- See the latest advances in cargo transfer operations from both a Liquid and Gas ship management and terminal/Facility perspective
- Make accurate measurements and calculations of all liquid and Gas custody transfers, and product quality accuracy
- Examine the design codes and guidelines on Liquid and Gas ship and shore transfer management
- Examine real Case Studies from around the Globe concerning Liquid and Gas incidents

Organisational Impact

The commercial and technical risks in the end to end LNG – Oil and Gas supply chain and operations, is a must for all players that are involved or looking to be involved in the LNG industry, specifically those looking to purse Load Master Competencies.

Daily Agenda

Day One: Pre-Test / ISGOTT/MTCOT/SAFETY – LOAD MASTER

- Assessment of delegates current knowledge and understanding
- Specific criteria and areas that need in depth coverage after assessment of delegates knowledge base. Asking general questions related to loading master duties, this allows customizing the training program to ascertain optimum benefit to the delegates
- International Safety Guide for Oil Tankers and Terminals (ISGOTT) new edition
- Safety procedures and recommendations for tanker and terminal personnel
- Oil companies International Marine Forum (OCIMF)
- Marine Terminal Competence and Training Guide (MTCOT)
- Critical Load Master – Types of Liquid/Gas carriers and Tanks
- ESD 1 and 2 - Technical comparisons and Containment systems
- Regasification terminal
- Land based options for Lad Master
- Regas vessels for Load Masters
- Critical Load Master – Applicable safety codes and Charterers' requirements
- International Gas Code vessel descriptions
- LNG Tank Type
- Vessel types

Management of the Tanker and Terminal Interface (ISGOTT)

- Load Master Communications procedures & precautions
- Load Master Pre-berthing exchange of information
- Critical Load Master – Information transfer from tanker to terminal
- Critical Load Master – Information from terminal to tanker
- Cargo loads
- Load Master discharge plan

What is LNG? Specific Hazards and Risks

- Screening / Compatibility Studies of participating vessels

- Ship compatibility, and OPTIMOOR
- Criteria in selecting transfer area and Approval from the authorities
- Security issues
- Checklists and Preparations
- Risk Assessments and Management, Helicopter operations, Cargo Hazards, weather conditions
- Personnel injury, mooring unmooring operations

Day Two: Custody Transfer, Quality, Preparations for Loading and Unloading

- What is custody Transfer?
- Pre-transfer exchange of information
- MSDS
- Preparation for cargo loading (responsibilities ship & shore)
- Preparation for cargo discharge (responsibilities ship & shore)
- On board procedures and training
- International Ship and Port Security Code
- Tanker Management Self-Assessment
- What is it, who is it for?
- Overview of elements and stages
- How the TMSA is used
- SIRE inspection system
- What is it and why have it for LNG?
- The stages of LNG and Liquid/Gas Cargo Cycles
- Regasification terminal locations -- Land based
- Regas vessels System Overview: typical schemes and operating principles
- LNG Transfer system design and parameters Contributors to Boil off Gas
- Preparation of Cargo Cycle – LNG and Liquid/Gas Terminal Compatibility Studies
- Roles and responsibility of terminal in LNG cargo transfer
- Terminal loading and discharging
- Ship-to-Shore operations interfaces
- Compatibility forms

Day Three: Procedures for Safe Mooring as Load Master and POAC

- Safe Mooring (ISGOTT)
- POAC demands and responsibilities
- Terminal Interface – Load Master/POAC and Master Mariners
- Jetties & SPM
- Preparation of Mooring

- Loading Master monitoring of moorings
- Duties and Responsibilities of the Loading Master
- Optimoor
- Berthing and letting go
- Liquid Natural Gas [LNG] - Project LNG/SIMOP/HSE/IMO/ILO

Ship Shore Safety Checklist

- Ship-shore safety checklist
- Identify improved procedures for the handling, loading and discharging of bulk liquids
- Understand pumps and pipeline systems including loading and discharge operations
- Liquid/Gas Operations -Tanker Loading and Discharging Operations and Preparations
- Arrival preparations and checklists
- Loading Arms – Technology, vendors and designs
- Cryogenic Hoses, testing and type 8 inch and 6 Inch
- Dynamic Positioning
- Manoeuvring with and without tug assistance or DP
- Jetty Approaches: Finger or Face Terminal Design Interface

Delegate Exercise – LOAD MASTER

- Contracted LNG/GAS Cargo Operations and development
- Cargo Transfer checklists and forms required
- Cargo Transfer equipment required
- Cargo hazards, safety and risks that exist
- Cargo controls
- Cargo training required for personnel (LNG Preparations forms)

Day Four: Ship to Shore Interface/ STS and Management of Operations

- LNG and Liquid/Gas Transfer System Architectures and available technologies
- Ship to Ship to Shore
- Ship to Platform
- Ship to Ship
- Ship connected transfer systems and tandem configurations
- System Uptime considerations of effective operations
- Meteocean conditions, prediction tools

Case Study

Typical Terminal Liquid/Gas and LNG Operations

- Leadership Skills
- Risk Management Skills
- Organizational Skills
- Motivation of Operator, Ships' Officer to cooperate

Tankers & Shore Tanks

- Vessel and Barge dimensions and shipping terminology
- Quantity and Quality terminology
- Cargo inspection definitions
- Shore Tanks, fixed, floating roof and other details
- Liquid form measurement - Differential Flow mechanisms, design, metering and performance
- Ultrasonic Flow mechanisms, design, metering and performance
- Vortex Flow mechanisms, design, metering and performance
- Applications of flow meters, calibration, calculations, transfer principles Safety

Case Study

Liquid and Gas CARGO SPILLS/ESD AND RELEASES

- Protocols and how the systems are used

Day Five: Emergency Response and Contingency Planning – LOAD MASTERING

- Things to do in case of emergency
- General Emergency Response Management
- Things to avoid during emergencies
- Contingency equipment
- Oil spill and LNG leak
- SOPEP/SIMOPS use
- Fire or Structural damage
- Poor weather and mooring failures
- Precautions against piracy
- Media management and communications, parties involved
- Recent industry incidents highlighted

Common causes of these incidents

- Required crew training and preparations
- Hazards and Risks moving forward
    - Geographical hazards
    - Crew factor
    - Ship and shore requirements
- Preparing for the future incidents - Contingency planning
- STS equipment and training
- Salvage of an LNG vessel
- Considerations for cargo recovery
- Environmental impact
- Technical equipment development
- Risk profiling of your operations
- What response is required?
- Safety Management Systems and Options

LOAD MASTER Technical Developments - Load Master Marine Engineers and Tech Superintendents – Wear down, Fatigue and Failure Management Practices and planning - LNG Fuel, STS and Bunkering

Overview of SMS & PMS
Discuss onboard planned maintenance systems – PMS
Discuss Trend analysis – T.A
Analysis of Condition monitoring technical - CME
OEM Main Engine component failures relevant to engine performance

Commercial aspects of General Average Insurance and LNG Cargo Incidents and Claims - how it affects all participants in the Industry

What is G.A – why does it affect all participants commercially?
G.A - Carriers concerns
LNG Loss and Case Studies
LNGC Cost of Losses and how to minimise commercial and economic risks
LNG Calculations and how to minimise loss
G.A - Charterer concerns
G.A – Facilities and Operators concerns
G.A – STS, Bunker Handlers & Bunker Operators concerns
Commercial Contracts and the effects on all parties
Technical nature of G.A
Rights and Obligations of all participants in the event of G.A

Examination

- A two-hour Duration written examination for Loading Master
- Interpretation of results and review of correct examination answers
- Awarding of Loading Master Certificates