MERCURY

Loading Master for Oil, LNG, Gas, and Petrochemical Terminals Training Course

3 – 7 May 2027
Barcelona (Spain)



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Loading Master for Oil, LNG, Gas, and Petrochemical Terminals Training Course

Ref: 37_1082357 **Date:** 3 – 7 May 2027 **Location:** Barcelona (Spain) **Fees:** 6200 Euro

The Loading Master for Oil, LNG, Gas, and Petrochemical Terminals Training Course is a one-week course for terminal operators, marine interface supervisors, and cargo expediters managing safe ship-to-shore transfers. Working with safety checklists, mooring plans, and custody transfer calculations, you develop a complete Terminal Cargo Transfer Dossier. Mercury Training Center delivers this course to help you maintain cargo safety and interface efficiency.

About This Course

Operational miscommunications, electrostatic discharge risks, and emergency disconnect failures during bulk liquid loading create severe environmental and financial hazards. To follow this course, you must already have operational familiarity with bulk liquid cargo handling or berth watchkeeping. Through scenario evaluations and equipment checklists, you systematically manage bulk liquid transfer interfaces.

Who It Is For

- Professionals responsible for berth operations, transfer line alignments, and ship-to-shore communications at marine liquid terminals
- Professionals responsible for verifying cargo tank atmospheres, inerting conditions, and electrostatic hazard precautions
- Professionals responsible for marine loading arm maneuvers, hawser strain tracking, and quick-release hook deployments
- Professionals responsible for cargo quantity calculations, ullage verifications, and custody transfer documentation

This course is not for ocean-going navigators seeking deep-sea passage planning training, nor is it for onshore refinery process operators seeking refinery distillation column control courses.

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Competencies You Will Build

- Ship-Shore Safety Verification: Conducting joint inspections and executing standard safety checklists across bulk liquid berths.
- Transfer System Management: Aligning marine loading arms, operating emergency release couplings, and tracking surge pressure thresholds.
- Atmosphere and Hazard Control: Monitoring inert gas systems, vapor balancing networks, and toxic gas exposure limits.
- Offshore Mooring Coordination: Managing single point mooring calm buoy telemetry, hawser tensions, and floating hose assemblies.
- Custody Transfer Documentation: Reconciling ship and shore figures, validating ullage reports, and completing transfer documentation.
- Emergency Transfer Interruption: Directing emergency shutdown sequences, spill containment measures, and terminal isolation protocols.

What You Will Be Able to Do

By the end of the course you will be able to:

- From ISGOTT 6th Edition guidelines, execute the joint Ship/Shore Safety Checklist and identify transfer hazards before connection.
- Given vessel approach profiles and berth layouts, evaluate OCIMF Mooring Equipment Guidelines criteria to verify safe line configurations.
- Using manufacturer specifications and cargo transfer rate tables, calculate surge pressure limits and emergency release activation parameters.
- From custody measurement logs, perform ullage, temperature, and density corrections to reconcile vessel and shore cargo figures.
- Given offshore terminal operational limits, monitor single point mooring hawser loads and floating hose strings during heavy sea states.
- Using SIGTTO recommendations, establish emergency shutdown and vapor return interlocks for refrigerated and pressurized gas transfers.

Course Content

Day 1: Regulatory Frameworks and Ship-Shore Safety Interface

- ISGOTT 6th Edition Terminal Administration and Safety Management
- Execution of the Joint Ship/Shore Safety Checklist
- MARPOL Annex I Regulations and Terminal Pollution Prevention Duties
- Safety Management Interface Under the ISM Code and ISPS Code
- Terminal Operating Regulations and Arrival Communication Protocols

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Day 2: Mooring Integrity and Bulk Liquid Transfer Equipment

- Mooring Line Geometry and Tension Monitoring Using OCIMF MEG4
- Marine Loading Arm Positioning and Powered Emergency Release Couplings
- Surge Pressure Calculations and Hydraulic Shock Mitigation Techniques
- Static Electricity Controls and Inert Gas System Rules for Flammable Vapors
- Floating Hose String Inspection for Single Point Mooring Operations

Day 3: Gas Tanker Terminals and Petrochemical Cargo Interfaces

- IGC Code Requirements for Liquefied Gas Carrier Operations
- SIGTTO Principles for Safe Handling of Gas in Terminals
- Emergency Shutdown Interlock Systems and Vapor Return Balancing
- Petrochemical Interface Precautions for Toxic and Reactive Liquids
- Fixed Berth Fire Protection and Gas Detection System Readiness

Day 4: Custody Transfer Procedures and Cargo Reconciliation

- Notice of Readiness Tendering and Berth Allocation Protocols
- Ullage Measurement, Temperature Profiling, and Density Calculations
- Ship Versus Shore Reconciliation and Apparent Cargo Loss Investigations
- Bunker and Cargo Loading Documentation and Transfer Logs
- Terminal Management and Self Assessment Guidelines Under OCIMF MTIS

Day 5: Interface Exercises and Safety Dossier Consolidation

- Exercise on Berth Arrival Clearances and Pre-Transfer Safety Auditing
- Exercise on Single Point Mooring Telemetry and Floating Hose Alignment
- Exercise on Cargo Reconciliation and Discrepancy Dispute Resolution
- Exercise on Terminal Emergency Shutdown and Containment Activation
- Finalization of the Terminal Cargo Transfer Dossier

Case Studies and Exercises

These suggested activities provide practical application of terminal transfer procedures across diverse operating environments:

- Case study: A coastal crude oil terminal in the petroleum sector where you investigate a surge pressure spike during emergency shutdown, evaluate loading arm coupling performance, and re-establish safe pumping rates.
- Case study: An industrial petrochemical terminal in the chemical processing sector where you analyze a vapor balancing failure during volatile liquid transfer, trace gas detector alerts, and implement safety interlocks.
- Exercise: An offshore deepwater export terminal in the marine logistics sector where you monitor hawser tension telemetry and floating hose configurations under adverse tidal shifts.
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Exercise: A refrigerated gas storage facility in the energy processing sector where you complete ship-to-shore checklists and calculate custody ullage measurements.

What You Take Back

The Terminal Cargo Transfer Dossier provides operational templates, safety inspection checklists, and transfer calculation sheets to support daily berth management during your first month back at work. You will use it to audit interface safety, track mooring strain, and manage custody handovers.

- Pre-transfer ship-to-shore safety verification checklists
- Marine loading arm and surge pressure limit worksheets
- Single point mooring hawser load tracking templates
- Custody transfer ullage reconciliation and loss reporting forms

Quick Answers FAQ

What background is required before attending the Loading Master for Oil, LNG, Gas, and Petrochemical Terminals Training Course?

You need prior operational experience in bulk liquid handling, terminal berth operations, or marine cargo watchkeeping. Familiarity with basic liquid transfer equipment, industrial valve manifolds, and general marine safety rules will help you apply the operational checklists and calculation sheets directly to your daily work.

How does this course differ from general marine terminal management courses?

General management courses address high-level port policy, tariff administration, and maritime concessions. This course focuses on the operational interface at the jetty, covering loading arm connections, single point mooring telemetry, inert gas controls, and the practical execution of ship-shore safety checklists.

Why is custody transfer figure reconciliation critical for a loading master?

Custody transfer figure reconciliation detects discrepancies between shore tank meters and vessel ullage measurements early. Accurate temperature, density, and volume calculations prevent contractual disputes, verify physical inventory, and ensure that any piping leaks or vapor losses are addressed immediately.

What work product do you take back from the Loading Master for Oil, LNG, Gas, and Petrochemical Terminals Training Course?

You take back the Terminal Cargo Transfer Dossier, which includes practical ship-shore safety checklists, marine loading arm inspection templates, mooring tension matrices, and custody transfer reconciliation worksheets that you can immediately apply at your berth.

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For Your Manager

This course develops the participant's ability to conduct safe, compliant ship-to-shore bulk liquid transfers while mitigating environmental and operational risks. The participant returns with the completed Terminal Cargo Transfer Dossier, ready to apply verified safety checklists, calculate surge thresholds, and resolve custody transfer discrepancies directly at terminal berths and mooring facilities.