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COURSE BROCHURE

Oil and Gas Marine Terminal Berths and Mooring Systems Training Course

11 – 15 January 2027
New York

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Ref: 1393_52151 **Date:** 11 – 15 January 2027 **Location:** New York **Fees:** 9500 GBP

Oil and Gas Marine Terminal Berths and Mooring Systems is a 1-week training course for terminal operators, marine superintendents and loading masters, and each participant leaves with a Berth Readiness Dossier for one jetty or buoy berth. Larger tankers, tighter turnaround windows and ageing marine structures mean the berth itself, from fenders and hooks to hoses and shutdown links, now decides whether a cargo moves safely and on time. Jupiter Prime Training runs this course.

Why Marine Terminal Berths and Mooring Systems Matter Now

Three groups shape berth performance today: shipowners who send larger and more varied hulls, charterers who penalise slow turnaround through demurrage, and coastal communities that tolerate no spill or vapour release. A terminal that matches each vessel to a berth's mooring capacity, inspects its hooks, buoys and hoses on schedule and tests its emergency release links keeps ships moving and cargo contained. A terminal that does not risks parted lines, hose ruptures and costly delays. The course rests on mooring load analysis, ship-shore safety checklists and the custody transfer measurement practice used across crude, refined product and gas terminals.

Who Gains Most from Marine Terminal Berths and Mooring Systems

- Staff who accept vessels at the berth and supervise mooring operations
- Staff who run cargo transfer through loading arms, hoses and manifolds
- Staff who plan berth allocation and coordinate pilots, tugs and line handlers
- Staff who inspect and maintain jetty structures, fenders, hooks and buoys
- Staff who witness tank gauging, metering and cargo quantity reconciliation

A terminal operations department gains most when its berth supervisors, marine staff and measurement technicians attend together and agree one set of berth acceptance rules.

Marine Terminal Berths and Mooring Systems Capabilities

Participants link a vessel's particulars to the physical limits of a berth and the controls that keep cargo and crews safe.

- Assess vessel and berth compatibility using displacement, freeboard and manifold position — the berth planner
- Calculate mooring line loads under wind and current to set operating limits — the marine superintendent
- Specify inspection intervals for quick-release hooks, fenders, buoys and floating hoses — the maintenance planner
- Apply ship-shore safety checks and communication protocols before transfer starts — the vessel's officer on watch
- Test emergency shutdown and emergency release couplings in drills — the terminal manager
- Weigh shore tank, meter and ship figures to resolve cargo quantity differences — the cargo inspector

Key Marine Terminal Berths and Mooring Systems Terms

- Single point mooring — an offshore buoy to which a tanker moors by the bow and weathervanes while loading or discharging through floating hoses.
- Quick-release hook — a jetty mooring hook that frees a line instantly under load, often fitted with load monitoring.
- Marine loading arm — an articulated steel pipe assembly connecting shore piping to a vessel manifold for liquid transfer.
- Emergency release coupling — a device that separates a loading arm or hose quickly and seals both ends during an emergency.
- Vapour recovery unit — equipment that collects hydrocarbon vapour displaced from cargo tanks during loading and returns or treats it.
- Vessel experience factor — a ratio comparing a ship's measured quantities with shore figures over past voyages to judge reliability.

Marine Terminal Berths and Mooring Systems Day by Day

Day 1: The Terminal and Its Berths

- Jetty, Sea Island and Buoy Berth Layouts — Matching Infrastructure to Trade
- Vessel Particulars and Berth Compatibility Studies — Accepting or Refusing Ships
- Berth Allocation and Turnaround Planning — Demurrage and Throughput Trade-Offs
- Pilotage, Tug and Line Handling Arrangements — Safe Berthing Approaches
- Port Information and Terminal Regulations Booklets — Rules Shared With Masters

Day 2: Mooring Systems and Structures

- Mooring Line Arrangements and Load Analysis — Setting Wind and Current Limits
- Quick-Release Hooks and Load Monitoring — Watching Line Tension in Real Time
- Fender Systems and Berthing Energy — Protecting Hull and Jetty
- Single Point Mooring Buoys, Hawsers and Chains — Offshore Inspection Choices
- Floating and Submarine Hose Strings — Replacement and Testing Schedules

Day 3: Ship-Shore Interface and Cargo Transfer

- Ship-Shore Safety Checklist and Pre-Transfer Meeting — Agreeing Rates and Signals
- Marine Loading Arm Operating Envelope — Drift Alarms and Connection Steps
- Manifold Connection, Blanking and Line Displacement — Starting and Stopping Flow
- Surge Pressure and Valve Closure Times — Preventing Hose and Arm Damage
- Ballast, Slops and Tank Cleaning Interfaces — Shore Reception Decisions

Day 4: Measurement, Vapour and Emergencies

- Custody Transfer Metering and Prover Checks — Accurate Quantity for Invoicing
- Shore Tank Gauging and Ship Ullage Reconciliation — Resolving Cargo Differences
- Vapour Recovery and Inert Gas Interfaces — Controlling Emissions During Loading
- Emergency Shutdown Links and Release Couplings — Ship and Shore Trip Logic
- Spill Response and Berth Fire Fighting Equipment — First Response Readiness

Day 5: Practising the Berth Readiness Dossier

- Compatibility Assessment for a Larger Tanker — Applying Day 1 Criteria
- Mooring Limit Calculation Exercise — Applying Day 2 Load Methods
- Transfer Start-Up Walkthrough — Applying Day 3 Ship-Shore Steps
- Emergency Release Drill Scenario — Applying Day 4 Shutdown Logic
- Berth Readiness Dossier Drafting — Limits, Inspections, Checklists and Drills

Applying Marine Terminal Berths and Mooring Systems After the Course

- Review the inspection records of one berth’s hooks, fenders and hoses and flag overdue items.
- Run an emergency release coupling drill with a visiting vessel and record trip times and lessons.

Marine Terminal Berths and Mooring Systems Questions FAQ

What are oil and gas marine terminal berths and mooring systems, and why do they matter now?

They are the jetties, buoys, hooks, fenders, hoses and loading arms that hold a tanker and move its cargo. They matter now because larger ships and tighter schedules push ageing berths closer to their limits.

Which roles gain most from marine terminal berths and mooring systems training?

Berth supervisors, marine superintendents, loading staff and terminal maintenance engineers gain most, along with measurement technicians who reconcile ship and shore figures.

How do marine terminal berths and mooring systems differ from a port management course?

The focus is the physical berth and the hydrocarbon transfer at it, not commercial port administration. A port management course covers tariffs, landside logistics and performance; this subject covers mooring loads, transfer equipment, measurement and shutdown links.

What do you bring back from marine terminal berths and mooring systems training?

You bring back a Berth Readiness Dossier for one berth, with vessel limits, inspection intervals, transfer checklists and drill plans that your terminal can adopt.

Marine Terminal Berths and Mooring Systems: The Way Forward

The Berth Readiness Dossier first informs whether a berth can accept the next larger or unfamiliar vessel. Berth supervisors, marine superintendents and maintenance planners use it to set limits and inspections. After its first use, revisit the mooring limits and drill results against actual weather and trip times to confirm the berth still operates within safe margins.