

SYLLABUS

COURSE OUTLINE

LNG Operations, Custody Transfer and Claims

Localised(values={})

LNG MARKETS AND VALUE CHAIN

- Regional LNG markets
 - Prices and trends
 - Impact of global markets
- Liquefaction terminal
 - Location
 - Size
 - Cost
 - Basic process
- LNG vessel main types
 - Moss Rosenberg
 - Membrane
 - Steamships
 - DFDE
- Regasification terminal locations
 - Land-based
 - Regas vessels
- International LNG guidelines and regulations
 - LNG tankers and terminals
 - LNG physical properties
 - Types of LNG/LPG cargoes

TRADE ROUTES, VOYAGE ANALYSIS AND CARGO MANAGEMENT

- Traditional project routes
 - Original LNG trading routes
 - Cargo management for arrival conditions
 - Vessel experience and operations optimisation
- New emerging routes with additional cargo management requirements
 - Present LNG trading routes
 - Differences in cargo management considerations
 - How passage planning and weather affect cargo management
- Receiving terminal and charterer requirements
 - Receiving terminal parameters for acceptance achieve terminal parameters
- Typical requirements from charterers
 - Use of Boil Off Gas (BOG), natural or forced
 - Fuel oil use and consumptions allowed
 - Restrictions on distances and voyage times
- Routing and cargo management options for different engine and vessel types
 - Which type of vessel is easiest to manage for cargo considerations
 - Options for cargo management
 - Speed and distance
 - Weather routing
 - Vapour control
- LNG Contracts of Affreightment
 - Ship chartering contracts
 - Terminal Access Agreements
 - Shipping Delivered Ex-Ship (DES) Agreements
 - Free on Board (FOB)
 - Cost, Insurance and Freight (CIF)
 - Contracts of Affreightment (CoA)
- Bills of Lading
- Force majeure, liabilities and dispute resolutions

APPLICABLE SAFETY CODES AND CHARTERERS' REQUIREMENTS

- International Gas Code vessel descriptions
 - LNG Tank Type
 - LNG Vessel types
- International Safety Management, basic requirements and training
 - Requirements for Safety Management Systems
 - On board procedures and training
- International Ship and Port Security Code
 - Additional requirements on crews
 - Work loads
 - Regional security issues
- 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?
 - Overview of a ship visit
 - How the system is used

LNG TERMINAL OPERATIONS

- Roles and responsibility of terminal in LNG cargo transfer
- Procedures and safety protocols for handling of LNG cargo
- Terminal loading and discharging
- Ship-to-shore (STS) operations

TANKER LOADING AND DISCHARGING OPERATIONS AND PREPARATIONS

- Arrival preparations and checklists
- Pre-loading procedures alongside
- Ramp up, loading and ramp down, actions and precautions
 - Ramp up, increasing loading rate
 - Tank loading procedures
 - Ramp down and the topping off tanks process
 - Vapour pressure control
- Post loading operations
 - Commencement of gas burning and line disconnection
- Pre-arrival preparations, terminal requirements and ship line cooldown
- Discharging and ramp down, heel options
 - Overview of standard discharge operations
 - Ramp down for heel distribution option
- STS discharging operations
 - Considerations when performing Ship to Ship operations
 - Where do STS operations occur?
 - Why are STS operations performed?

LNG CUSTODY TRANSFER MEASUREMENT AND CALCULATIONS

- System setup parameters
- Ship and surveyor roles
- Certificate of Loading
- Bill of Lading issuance and presentation for certain receiving countries
- Types of Custody Transfer Measurement Systems and Equipment
 - Liquid form measurement
 - Volumetric measurement
 - Temperature measurement
 - Custody Transfer Measurement system (CTMs) testing and checks
- LNG Custody Transfer Calculation
 - Transfer energy formula
 - Calculation of gross calorific value

LNG CARGO INSURANCE & CLAIMS

- LNG cargo Insurance
- Loss type
- Cargo shortage claims
- Shortage at ports and during discharge
- Major considerations in LNG Loss
- Calculations relating to LNG loss
- Methods of determining actual against theoretical loss
- Methods to control or minimise loss

RECENT INCIDENTS, SAFETY AND RISK MANAGEMENT

- 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