

# **TERMINAL REGULATIONS AND INFORMATION BOOKLET –**

## **Terminale GNL Adriatico S.r.L**

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# 1.0 Introduction - Definitions

The Terminal Regulations supplement the Maritime Safety Regulations Order n.63/2008 issued by the Chioggia Harbor Master on September 2<sup>nd</sup> 2008 (“Maritime Safety Regulation”) and to any regulation expressly applicable to it, to ensure safe and efficient operations at the Terminal.

They also:

- Provide the Terminal user with a source of additional information and procedures pertinent to operations at the Terminal.
- Should be read in conjunction with the Maritime Safety Regulations and other applicable laws to ensure that the Terminal users are compliant with all applicable State/Port Legislation and any other Terminal-specific requirements.

## Application

The *Terminal Regulations* apply to all LNG Carriers including persons operating at the Terminal berth.

## 1.1 Definitions

Term	Description
ALNG	Terminale GNL Adriatico SRL, the Terminal operating company
Cargo equipment	Cargo pumps, cargo compressors, cargo vaporizers, inert gas generators, motors, control equipment, and other cargo-handling equipment. It also includes, where appropriate, primary and emergency power supply, circulating pumps and other auxiliary equipment essential for safe and efficient operations
Crew	Collectively the personnel involved with cargo-handling operations, and all other persons related to these operations on behalf of the LNG Carriers
Grid	The national and regional transport system for Gas as defined in the MICA decree of the 22 <sup>nd</sup> of December 2000, as such decree is published in the Gazzetta Ufficiale, serie generale, 23-11-2001 n. 18 but, for the purposes of this Terminal Regulation, excludes the pipeline which runs from the offshore plant of the Terminal to and including the Cavarzere Entry Point.
Intrinsically safe	The condition whereby any spark or thermal effect, generated by the normal operation or accidental failure of the equipment, is incapable, under prescribed test conditions, of igniting a prescribed gas mixture. Any equipment so rated will be certified, by an appropriate body as “intrinsically safe.”
Line handlers	Is defined in the Maritime Safety Regulation.
LNG	liquefied natural gas
LNG Carrier	Liquefied natural gas carrier, sometimes referred to as LNG Carrier or LNG ship, constructed and equipped for the transportation of liquefied natural gas in bulk at specified temperatures and pressures corresponding to the atmospheric boiling points of the liquefied gases.
Maritime Safety Regulations	Defined in the Preamble.

Term	Description
Master	When used in relation to an LNG Carrier, any person having the command of the LNG Carrier, or a responsible person delegated by the Master to undertake general or specific duties in liaison with the Terminal, provided that the Master shall at all times have sole responsibility for the application of the present regulations.
Naked Lights	Open flames, exposed incandescent material or any other unconfined source of ignition.
Maritime Authority	Chioggia Harbor Master, in his capacity as the party entrusted with the administration and enforcement of the applicable Maritime Safety Regulations.
Notice of Readiness	Defined in article 3.2.1
Notice of Readiness	Defined in article 3.2.1
Offshore Installation	The person in charge of the safe operation of the Terminal
Pilot	Defined in the Maritime Safety Regulation
Ship's Agent	The agent appointed by the LNG Carrier Owner or Charterers to act on behalf of the LNG Carrier in arranging Marine services and authority Clearance requirements for the LNG Carrier to offload at the ALNG Terminal
Terminal	The LNG receiving facility, geographically located at the coordinates provided for in article 2.1, including berth area and other facilities within the 2000m exclusion zone and Terminal management designated by ALNG. Such management includes the person or persons (and his/their deputies and assistants) authorized by ALNG to exercise the powers or perform the duties related to making and enforcing regulations, administration and control of the plant and berths.
Terminal Regulation	This document which applies to all LNG Carriers including persons operating at the Terminal berth
Terminal Representative	The designated person who will board the LNG Carrier on behalf of the Terminal and will act as co-coordinator between the Terminal and LNG Carrier. The Terminal Representative or 'Loading Master' is in direct communication with the Terminal Control room.
Tug	Defined in the Maritime Safety Regulation

## 2.0 General Information

The Terminal is located approximately 10 nautical miles ENE of Porto Levante. The co-ordinates of the Terminal and Anchorage area are:

Terminal	45 05.3N; 012 35.1 E
Anchorage area (CST)	45 09.5N 012 25.5 E

LNG Carriers requiring anchoring must first seek Maritime Authority authorization on VHF channel 14

### 2.1 Restricted Areas and Safety Zones

A 2000-mtrs or 1.1 mgl. radius Safety zone exists around the Terminal in which navigation and fishing activities are prohibited.

Access to the exclusion zones is restricted exclusively to LNG Carriers calling at the Terminal, mooring support vessels and support service vessels, either working for or authorized by ALNG and Marine Authority, as well as those vessels associated with law enforcement agencies.

There is also a 1.5-nautical-mile radius Area to be Avoided (ATBA) / No anchoring area around the Terminal.

### 2.2 Berth Approval Parameters

The Terminal is designed to provide a safe mooring for LNG Carriers satisfying the following size limitations:

Maximums	Parameters
Maximum Arrival Displacement	148,000 metric tonnes
Maximum Overall Length	320 meters
Maximum Beam	50 meters
Maximum Moulded Depth	27 meters
Maximum Loaded Draft	13/15 meters

All LNG Carriers must conduct LNG cargo discharge and ballast operations simultaneously to minimize the exposed wind area of the LNG Carrier while moored. (See section 8 - State of Readiness)

### 2.3 Environmental Conditions

#### 2.3.1 General information.

The Terminal is under the influence of the Northern Adriatic Sea climate. Migrating extra tropical cyclones cause weather variations, which enter Europe from the North Atlantic Ocean either in the vicinity of Normandy, France, or across the coast of Portugal. Most of these systems follow a common trajectory to



northern Italy and then exit the northern Adriatic to the Northeast, East, or Southeast. Another phenomenon causing significant variations in the weather is origination of a low-pressure storm system in the region itself. This latter event is common in the months of January, February, and July.

The main winds in the area are the "Bora" and the "Scirocco." Bora is a wind originating from the Northeast, but its direction shifts with topographic and migratory influences. Offshore Venice, it tends to arrive as an inflow of continental Polar or Arctic air through Trieste. Sometimes it funnels through the East Coast of the Adriatic, arriving from the ENE sector.

Wind from this special direction in the Adriatic is referred to as a "levantera". The most noteworthy aspect of Bora winds is that they sometimes "spill" out of the mountains with an abrupt rise in velocity, spawning squalls and yielding wind speeds of 55 to 70 knots within a few hours. Bora winds are most intense from October through May and typically last ½ to 2 days.

The Scirocco has a completely different origin. It emerges from the south as tropical continental air that has lifted up moisture from the Mediterranean Sea. As the air moves up the Adriatic, its wind rotates such that it arrives near the Terminal site from an easterly direction, typically with very cloudy conditions. Scirocco winds are most intense from January to May in this region and tend to last from 1 to 3 days.

The information provided in this article 2.4.1. are indicative only (i.e. non binding).

### **2.3.2 Weather Reports**

Twice daily weather forecasts are available around-the-clock from ALNG.

These weather forecasts are indicative only. ALNG shall not be liable in any manner for their use.

## **2.4 LNG Carrier Domestic Matters**

<b>Carrier</b>	<b>Description</b>
Bunkers and potable water	There are no bunkering or potable water facilities at the Terminal. Bunkering activities are not permitted at the Terminal or within the Terminal Safety Zone.
Garbage Facilities	There are no garbage reception facilities at the Terminal.
Provisions, stores and crew changes	There are no facilities to accommodate provisions storing or crew changes at the Terminal. Master and Ship's Agents should schedule crew changes or stores deliveries: <ul style="list-style-type: none"> <li>▪ Prior to berthing,</li> <li>▪ After unberthing, or</li> <li>▪ While at anchor.</li> </ul> The LNG Carrier may store or effect crew changes from supply boats when alongside only with the prior permission of the Terminal. Supply boats may not come alongside the LNG Carrier and stores and/or spares may not be loaded or unloaded during cargo-handling operations.
Repairs	Repairs, except those as agreed upon with the Terminal to facilitate safe or continued operations while at the Terminal, are prohibited.

Carrier	Description
Medical care	<p>While there are limited medical facilities available on the Terminal, emergency medical evacuation to shore may be organized by ALNG at the expense of the LNG Carrier. The transportation mode depends on logistic planning and availability and is decided by ALNG.</p> <p>The shipping agent of the LNG Carrier officially makes requests to ALNG for medical evacuation. The shipping agent is responsible for logistic arrangements for the evacuees upon arrival on shore.</p>

## 2.5 Terminal Representative

The Terminal Representative (Load Master) may board the LNG Carrier with the Pilot before the beginning of mooring operations.

The Terminal Representative (Load Master) acts as coordinator for all LNG Carrier/shore operations and may remain onboard during the LNG Carrier call at the Terminal.

He/she also provides local advice to the Master should any emergency arise.

## 2.6 LNG Carrier Documentation

It is the Master's responsibility to ensure that the LNG Carrier has current versions of the following documents:

- Chioggia Harbor Master Ordinance 63/2008
- Terminal Regulations
- Cargo Handling Manual

Documents can be accessed at the ALNG website: [www.adriaticlng.it](http://www.adriaticlng.it).

The LNG Carrier's Ship's Agent will also forward copies of these Terminal Regulations and Information Booklet and CHM Ordinance 63/08 to the LNG Carrier's Master prior to the LNG Carrier's arrival.

Prior to arrival at the Terminal, the Master is to confirm receipt and execution of the Terminal Regulations and Information Booklet and CHM Ordinance 63/08 to the Terminal, Maritime Authority and the Agent

It is the Master's responsibility to produce the following documents if requested by the Terminal Representative:

- LNG Carrier Cargo Handling Manual
- LNG Carrier Emergency procedures

## 3.0 Arrivals

### 3.1 Communication Information

Item	Description
VHF operating channels	[08 ] and [16] , 24 hours per day
Terminal Postal Address	Senior Marine Advisor c/o Terminale GNL Adriatico S.r.l. Via C. Colombo n° 3 45014 Porto Viro (RO) Italy
Terminal e-mail	<a href="mailto:alng_oim@adriaticlng.it">alng_oim@adriaticlng.it</a> <a href="mailto:carmelo.panebianco@adriaticlng.it">carmelo.panebianco@adriaticlng.it</a>
Terminal Fax	+39 0426 361250/352
Terminal Telephone	+39 0426 361201/316
ALNG e-mail	<a href="mailto:alng_marine@adriaticlng.it">alng_marine@adriaticlng.it</a> <a href="mailto:carmelo.panebianco@adriaticlng.it">carmelo.panebianco@adriaticlng.it</a>
ALNG Fax	+39 0426 361600
ALNG Telephone	+39 0426 361593606

Conduct all communications between the Terminal and LNG Carrier and or Ships Agent in English

### 3.2 Pre-Arrival Communications

Master must send via fax or e-mail a series of communications and estimated times of arrival (ETAs) as listed below:

Departure notice at loading port, to include:

- Loading port of the LNG Carrier; and
- Name of the LNG Carrier; and
- Time and date when LNG loading was completed; and
- The quantity of LNG loaded and the portion of such quantity to be unloaded at the terminal if less than the full quantity; and
- ETA of the LNG Carrier.
- Updated notification of change of ETA if 12 hours or greater
- 48 hours before arrival, with updated notification of change if 6 hours or greater
- 24 hours before arrival, with updated notification of change if 3 hours or greater
- 5 hours before arrival
- Updates when in VHF range with the LNG Carrier maintaining a listening watch on Terminal VHF Operating Channels

Pre-arrival information is to be transmitted to the Terminal no less than 48 hours prior to arrival at the Terminal. See [Attachment 11.2 Pre-Arrival Information](#).

Masters are obliged to immediately report any defects or deficiencies that may affect the safety or the performance of operations to be conducted while the LNG Carrier is within the confines Safety Zone and/or when the LNG Carrier is at the Terminal.

The following checks and tests must be carried out successfully on board the LNG Carrier and duly recorded within three days prior to the estimated time of berthing:

- Water Spray systems
- Fire pumps
- Atmosphere condition of hold spaces if inerting is not required
- Operation of cargo system remote control valves and their position indicators
- Alarm function of fixed gas detection equipment
- Primary custody transfer and alarm set points
- Operation of Emergency Shut-down system (ESD)

The Master must immediately report any defects or deficiencies concerning these checks and tests to the Terminal.

The Master produces confirmation of such checks to the Terminal during the Pre-Transfer Meeting.

### **3.2.1 Notice of Readiness**

Upon arrival at the Pilot boarding Station, the LNG Carrier Master or the Ships agent must give notice to the Terminal that the LNG Carrier is ready to berth at the Terminal and to Unload ("Notice of Readiness")

Prior tendering a Notice of Readiness the LNG Carrier Master must verify that the LNG Carrier has reached the Pilot boarding station, that the LNG Carrier is ready for all purposes of berthing and for unloading.

The Notice of Readiness (NOR) is tendered by fax and shall:

- Be Signed by the Master of the LNG Carrier
- State the time and date when it was given
- Be Addressed to the Terminal Offshore Installation Manager

The Terminal will on receipt of the Notice of Readiness provide the LNG Carrier on instructions for berthing at the Terminal

In the event the LNG Carrier has tendered Notice of Readiness without satisfying the conditions to tender, then the Terminal shall issue in due time a notice of protest invalidating such Notice of Readiness.

## **3.3 Navigation, Pilotage and Berthing**

### **3.3.1 Pilotage**

Pilotage is compulsory using the Terminal approved Pilotage service. VHF contact should be established with the "Chioggia Pilot station" on Channel 11 when within range. The boarding position for the Pilot and Terminal Representative is approximately CST (Chioggia Small Tank) anchorage area, or weather condition permit the Pilot could boarding at 3.5 nautical miles West North West of the Terminal

### 3.3.2 Pilot Ladder

Pilot ladders for embarkation **must** be as per SOLAS Chapter V Reg. 17 and the IMO “Recommendation on Arrangements for Embarking and Disembarking Pilots in Very Large Ships,” adopted by Resolution *A.426* (XI) 1979, “Required Boarding Arrangements for Pilots.”

### 3.3.3 Tug Assistance Vessels

LNG Carriers are required to berth and un-berth with Terminal-approved tugs.

Tugs are also required to remain in close proximity to the Terminal throughout the LNG Carrier’s stay at the berth and be available in case of early departure requirements or emergency situations.

At least two of the tugs will remain in the immediate vicinity of the LNG Carrier and be available to render assistance or fire fighting support within 10 minutes; the remaining tugs will be available within 30 minutes within the safety zone or ATBA.

The tugs in immediate vicinity to the LNG Carrier and Terminal will maintain a security watch to the offshore side of the LNG Carrier.

The number and power of tugs indicated in the following table.

LNG Carrier DWT	Number of tugs – Berthing	Number of Tugs – Unberthing
All LNG Carriers	4 x 65t Bollard Pull	4 x 65t Bollard Pull

In consultation with the Terminal Offshore Installation Manager, Senior Marine Advisor, Pilot and Master and with the approval of the Maritime Authority, three tugs may be used if the fourth tug is unavailable or damage at the time of berthing /unberthing of LNG

### 3.3.4 Line Handling Service

LNG Carriers will be assisted by the Terminal-approved line-handling boats and mooring crews. Line-handling boats and crews together with mooring crews on the Terminal stationed at each end of the LNG Carrier will transfer and secure the mooring lines.

A mooring crew will also remain on the Terminal during the LNG Carrier’s call at the Terminal to release the LNG Carrier and be available in case of emergency or requirement to renew or secure a mooring line.

[See: 4.0 Mooring and Unmooring](#)

### 3.3.5 Ship Agency

The LNG Carrier-appointed Ship’s Agent is responsible for booking and coordination of the Pilot, Tug and Line Handling services.

Ship Owner, Charterer and Ships Agents are directed to the ALNG website ([www.adriaticlng.it](http://www.adriaticlng.it)) for further details.

The Ship’s Agents shall liaise and communicate with ALNG concerning the LNG Carrier ETA and the schedule requirements of the Pilot, Tug and Line-handling services.

The Ship’s Agent will also advise ALNG of other requirements that the LNG Carrier will have while at the Terminal, including:

- Planned storing activities
- Crew changes

- Visiting personnel to the LNG Carrier
- Cargo surveyor arrangements
- Other planned activities

The Ship's Agent will be responsible for arranging transportation to and from the LNG Carrier to conduct business on behalf of the LNG Carrier.

### **3.4 Status of LNG Carrier Equipment**

The Master of the LNG Carrier **MUST** notify the Pilot and Terminal Representative of any limitations or deficiencies which might impose special hazards in connection with handling, mooring or unloading the LNG Carrier, such as defective (for example but not limited to):

- Propulsion,
- Steering equipment,
- Lines or gear,
- Cranes/booms, or
- Cargo equipment.

The Terminal Representative may conduct a Pre-Berthing Operational Safety Inspection of the LNG Carrier including but not limited to the following:

- Mooring arrangements and equipment
- Brake test winches certificates
- Anchor status
- Cargo manifold
- Cranes and associated gear
- Cargo control room
- Any other area that the inspection may confirm master-reported status of the following items:
  - Main engines
  - Rudder and back-up steering systems
  - Emergency generator systems
  - Emergency fire pump
  - Emergency shut down
  - Emergency Power and lighting system
  - Fire fighting systems (including pumps)
  - Emergency signaling systems (general alarms & whistle)
  - Lifesaving equipment (life boats, rafts)
  - Radars and navigation systems
  - Navigation lights
  - Internal and external emergency communication systems
  - Auxiliary equipment
  - Operational Control equipment
  - Pre checks as per section 2.2

If the LNG Carrier is found unacceptable for Terminal berthing or unloading, the Terminal Representative will as soon as practical advise the Master, the Pilot, the Marine Terminal Offshore Installation Manager (OIM), and the Ship’s Agent.

### 3.5 Berthing Schedule

The berthing schedule will be in accordance with the Terminal’s procedures and requirements and shall include but not necessarily be limited to:

- Acceptability of the LNG Carrier by Authorities shaving jurisdiction on the LNG Carrier and ALNG
- Berth and storage availability Scheduled Arrival Range

### 3.6 Berthing/Un-berthing Criteria

The following table shows environmental limits for operations.

This information is provided for guidance only and is based on a 152,000 m3 membrane LNG Carrier. It is subject to change and is subject to the judgment and decision of the Pilot, the Master and the Terminal Representative.

Activity	Significant Wave Height	Direction of Wave
Berthing	1.0 m	From any direction
Stop Cargo Transfer Disconnect Loading Arms	1.4 m	From 110-190 degrees (deg)
	1.7 m	From 300-60 and 190-240 deg
	2 m	From 60-110 and 240-300 deg
Unberthing	1.2 m	110-190 deg
	1,0 m	300-60 and 190-240 deg
	1,2 m	60-110 and 240-300 deg

Activity	Wind Speed	Time & Direction of Wind
Berthing	15 knots	1 hour (hr) from any direction
Stop Cargo Transfer Disconnect Loading Arms	30 knots	1 hr from any direction
	36 knots	30-second gust from any direction
Unberthing	25 knots	1 hr from any direction
	30 knots	30-second gust from any direction

**Notes:**

- An unberthing wind criterion is reduced to 20 knots for the larger Moss carriers and Qflex membrane carriers.
- The visibility for berthing operations is to be more than 500m.
- Terminal is fitted with anemometer and wave measurement equipment that will be used to determine the prevailing wind and sea state conditions.

See: [Attachment 11.7 Adverse Weather – Terminal Operating Policy](#)

## 3.7 Berthing Approach

All maneuvering of LNG Carriers proceeding to and within the Terminal Safety Zone shall be conducted with appropriate care and caution at a speed and in a manner that shall not endanger the safety of other vessels or Terminal.

The berthing principle is to maneuver the LNG Carrier into a position parallel to the berth. With the LNG Carrier stopped in this position, the tugs will then push or pull the LNG Carrier onto the breasting dolphins.

LNG Carriers will generally berth starboard side alongside unless previously discussed and agreed upon by the Master, the Offshore Installation Manager and the Pilot.

The Terminal is provided with a berthing aid and mooring line tension monitoring system with approach speed indicator panels positioned on the Terminal.

A portable PC unit is also available, which is linked to the Terminal by wireless telemetry during docking. This unit will, in LNG Carrier approach mode, display dynamic graphical data presentation of LNG Carrier speed, distance and longitudinal angle.

After docking, this unit can be transferred to a mode where it displays mooring line tension loads.

This mooring tension data is also made available through the ship-shore communications link.

The following table provides detail on the approach limit warning settings

<b>Berthing Speed</b>	0-15cm/s	15-19cm/s	20cm/s and over
<b>Approach Angle:</b>	Green: 0-5deg	Yellow: 5-9deg	Red: 9 deg and over

To avoid damage to the fenders, the LNG Carrier should normally be landed squarely onto the fenders with a contact speed **not exceeding 15 cm/second**.

The Master and the Terminal will agree to the final position in accordance with the LNG Carrier and Terminal cargo handling arrangements.

### 3.7.1 Status of Anchors

During Pilotage operations and when entering the Safety Zone LNG Carrier personnel must be stationed forward with both anchors ready for immediate use in case of an emergency

On completion of mooring operations and while alongside the Terminal, the anchors must have the compressor bar across and pin in place to prevent accidental release.



## 4.0 Mooring and Unmooring

### 4.1 Mooring Arrangements

At the latest 24 hours prior to first arrival of the LNG Carrier, ALNG will forward the proposed mooring plan as established during the ship/shore compatibility studies. The mooring plan will include details of the number of mooring lines to be used.

The minimum mooring line requirements for LNG Carriers are indicated in the following table. However, the Master should use all usable mooring lines and not hesitate to increase the number of mooring lines, if he considers it is prudent to do so.

All usable lines must be wire or high-modulus ropes located on winches that can be used effectively to moor the LNG Carrier.

<b>Lines</b>	<b>Forward</b>	<b>Aft</b>
<b>Head / Stern</b>	3	3
<b>Breast</b>	3-4*	3-4*
<b>Springs</b>	2	2
<b>Fire wires</b>	1 Not anymore compulsory by ISGOTT	1 Not anymore compulsory by ISGOTT

\* Depends on carrier size

[See: Attachment 11.9 Example Mooring Layouts](#)

The arrangement of mooring lines and the sequence of mooring operations that will take place will be agreed upon between the Master, the Pilot and the Terminal Representative.

A maximum of two mooring lines can be handled by each mooring boat at one time.

The LNG Carrier must be moored to the complete satisfaction of the Pilot and Terminal Representative.

The layout for the mooring arrangement of the LNG Berth was developed to suit a wide range of LNG Carrier designs. All mooring hooks are equipped with load sensors and are monitored with a Tension Monitoring system.

Head, Stern and Breast line mooring lines must be fitted with 22-m 8 strand type polyester mooring tails and springs with 11 m polyester/ nylon tails.

Certificates and inspection data shall be made available by the Master to the Terminal Representative on request.

Mooring lines attached to the same mooring dolphin or in the same direction shall be of a similar breaking strength and same material.

Synthetic mooring lines shall meet the requirements of OCIMF's publication "Guidelines on the Use of High-Modulus Synthetic Fiber Ropes as Mooring Lines on Large Carriers."

### 4.1.1 Mooring Winches

If the LNG Carrier is fitted with self-tensioning winches **MUST be** placed on the manual brake.

Where spilt drums are fitted, wire-mooring lines must be properly reeled in accordance with OCIMF “Mooring Equipment Guidelines.”

The LNG Carrier's mooring equipment shall be maintained in good condition so as to meet the requirement of keeping the LNG Carrier in a proper and safe position alongside the berth at all times.

## 4.2 Status of Mooring

The safety of the moored LNG Carrier is the Master's responsibility under all circumstances. However, to ensure safe cargo handling and avoid damage to the Terminal, the Terminal Representative and jetty operators will check the LNG Carrier's mooring periodically. If the mooring is found to be unsatisfactory, the Terminal Representative will request the Master to correct or adjust the moorings. If the Master does not fulfil the Terminal Representative request in due time or in extreme cases (i.e. safe operation or Terminal integrity is jeopardized) the Terminal Representative may decide to suspend the cargo discharge.

It is the Master's responsibility to ensure that the LNG Carrier is securely moored having due regard to the forecasted weather conditions.

Weather forecasts and prevailing weather and sea conditions are monitored during the LNG Carrier's stay alongside

Appropriate action shall be taken in advance of deteriorating weather.

Sufficient and competent personnel maintain a strict mooring watch to ensure that proper adjustments are made as required to prevent slack or over-taut lines and movement of LNG Carrier.

Mooring line tension shall be carefully monitored especially when conditions approach the environmental limits. The mean tension should be maintained as close as practical in the range of 10-20 tonnes.

Line tension alarm set points	
Low	5 tonnes
High	60 tonnes

On activation of a low-mooring-tension alarm the Officer in Charge (OIC) must immediately rectify the tension of the alarmed mooring line. On activation of the high-mooring-tension alarm the OIC must immediately inform the Terminal Control Room and / or the Terminal Representative.

The Terminal Representative will also continuously assess the weather conditions and make decisions regarding the start, continuation, or cessation of operations. Such decisions are made in full consultation with the Master who retains the right to order a cessation of any operation.

See: [Attachment 11.7 Adverse Weather – Terminal operating Policy](#).

## 4.3 Partial Fill Operations for Membrane LNG Carriers

LNGC Masters and Owners are recommended to conduct a due diligence review and risk assessment prior to the LNG Carrier's first arrival at the terminal to confirm vessels capability to discharge at the terminal within the operating parameters set and hind cast data.

Owners should be guided by their Classification Society and or Membrane System Designer on limitations, operations and mitigation measures for operating at the terminal or if the LNG Carrier has to depart the terminal in the partial fill condition.

All Owners should, as a minimum develop a safe condition departure plan in the event the vessel is required to depart the terminal prior to cargo completion.

Such a departure plan shall be required as part of the LNG Carrier pre-approval process at the terminal.

Possible mitigation measures and considerations for inclusion in the plan include:

- Development of passage plans that considers incident wave directions, wave periods and fill levels
- Constraints imposed by sea room to reduce exposure to beam sea conditions
- Anchor plans
- Internal transfer of cargo between tanks

The Master and Terminal Representative will review the latest weather forecasts prior to:

- Berthing
- Commencement of Discharge
- Entering the partial fill condition

Forecasts must indicate a 24-hour look-ahead period in order to satisfy themselves that weather conditions will remain favorable to allow safe discharge without interruption and un-berthing of the LNG Carrier.

## 5.0 Communication

### 5.1 Verbal Communication

The following applies to verbal communication:

- All communication between the LNG Carrier and ALNG shall be in English. The Master shall advise ALNG prior to arrival if unable to comply and agree upon a solution.
- ALNG will also ensure that the LNG Carrier is provided with a HOT LINE for emergency communication to ALNG.
- ALNG normally provides a PaBx Telephone Line that will enable communication via the ship/shore communication link
- During routine unloading operations communications between LNG Carrier and ALNG are primarily carried out using an ALNG provided UHF radio.

Alternative communication will be via agreed VHF radio Channel

Communication shall be confirmed on a frequent basis to confirm operation of the systems

All portable communications systems in use must be certified intrinsically safe and must comply fully with applicable safety requirements.

### 5.2 Communications Link

The primary system utilized to establish a means of communication between the LNG Carrier and ALNG will be either via:

- Fiber Optic link or
- Copper cable (Electrical) link.

A back-up Pneumatic ESD link will also be provided.

Dependent on LNG Carrier system one primary and the Pneumatic ESD will be fitted and tested in due time prior commencement of operations.

The Fiber Optic is utilized to transmit 4 channels of multiplexed communications between the Terminal and the LNG Carrier, together with Terminal-LNG Carrier and LNG Carrier-Terminal emergency shutdown (ESD) signaling. The copper cable link shall transmit all of the above, but on a dedicated pair of wires per signal.

Terminal personnel and LNG Carrier's personnel will connect the Fiber Optic or electrical link and pneumatic link as soon as the gangway has been set.

The fiber Optic, the Electrical Link and pneumatic link will be tested to ensure that adequate and compatible communication link. After testing only one system, fiber optic or electrical will remain connected

The Fiber Optic or electrical Link and pneumatic link will remain connected until the gangway is about to be removed prior to the LNG Carrier's departure.

Following the disconnection of the Fiber Optic or electrical link, the LNG Carrier should monitor on VHF [Ch08 ]

In the event of a failure of the communications system providing the ESD / data link, all discharge operations are to be suspended until the fiber optic or electrical link is re-established, or until such time that an

alternative Communication/ESD system is established and agreed upon between the LNG Carrier and the Terminal Offshore Installation Manager and approved by the Maritime Authority.

Prior to any LNG Carrier calling for the first time, ALNG will conduct a Ship Shore Compatibility Survey. During that survey any problems associated with communications will be identified and steps will be taken with the LNG Carrier and the owner to ensure that an adequate and compatible communication link exists between LNG Carrier and ALNG.

**Reference:** See *ALNG Cargo Handling Manual* for details of the communication systems and pin configurations.

## **5.2.1 Communication Agreement**

[Attachment 11.5 Communication Agreement](#) shall be completed and signed by the Master during the Pre-transfer Meeting. This attachment defines the communications systems and procedures to be implemented between the LNG Carrier and ALNG.

## 6.0 Access & Security

### 6.1 LNG Carrier Access

The Master has the sole jurisdiction over controlling access to his LNG Carrier.

ALNG will provide and operate a gangway with a saddle or tripod landing arrangement for location on the LNG Carrier's handrail or deck.

It remains the responsibility of the Master to provide safe access that includes at least (but not limited to):

- The provision of a life-buoy with at least 25 meters of floating lifeline
- Appropriate illumination
- Safe access between the termination of the gangway steps and the LNG Carrier main deck
- Continual manning and monitoring of the gangway access area.
- Posting of a notice at the gangway advising personnel that only “Authorized personnel may board the LNG Carrier or Terminal”

The LNG Carrier must be ready to receive the Terminal gangway as soon as the berthing has been completed.

The Master is required to provide assistance on the main deck to enable the proper and safe positioning and removal of the Terminal gangway.

The LNG Carrier and the Terminal must ensure that there is a safe transit for personnel between the LNG Carrier and the Berth by inspecting the gangway once in position.

**Reference:** ALNG *Cargo Handling Manual* for details of the gangway arrangements

### 6.2 Security - Berth/LNG Carrier Access Control

No person other than the Pilots, Customs officials, immigration officer, Ship's Agents, Maritime Authority or Terminal Representative is allowed to board or disembark from an LNG Carrier until clearance has been obtained from the authorities having jurisdiction on the Terminal and the LNG Carrier and the Master.

ALNG, among other things:

- Reserves the right to request that personnel produce personal identification.
- Reserves the right to escort to or from the LNG Carrier any unannounced visitors or persons whose conduct may present a hazard to personnel or Terminal property.
- Reserves the right to board the LNG Carrier at any time to ensure that the Terminal Regulations are being observed and to stop all operations in the event of contravention of the Terminal Regulation.
- Has the sole responsibility of controlling access to the Berth area.

**SHIPBOARD PERSONNEL ACCESS TO THE TERMINAL IS NOT PERMITTED WITHOUT PRIOR APPROVAL FROM THE ALNG AND WITH ALNG ESCORT**

## 6.3 Emergency Escape

The following pertains to emergency escapes:

- A pilot ladder or accommodation ladder shall be rigged or positioned on the outboard side of the LNG Carrier.
- The accommodation ladder shall be swung outboard ready for immediate lowering in case an emergency escape is required.
- The Terminal Representative will review with the LNG Carrier Master during the pre-transfer meeting emergency evacuation arrangements, including reciprocal arrangements in case of need to evacuate the jetty area and remove the LNG Carrier from the berth.

## 6.4 Security - ISPS

All security-related questions should be addressed to the Terminal Representative.

The PFSO /DPFSO (Port facility Security Officer) is authorized to sign the "Declaration of Security" which shall be signed also by the LNG Carrier Security Officer or Master and will concur with the LNG Carrier Security Officer on any additional security measures in case the LNG Carrier or Terminal is at a security level other than 1.

[See Attachment 11.10 pre-Arrival ISPS Declaration of Security](#)

## 7.0 Safety

### 7.1 Introduction

The safety requirements have been developed based on OCIMF (ISGOTT), SIGTTO and other industry accepted standards. The LNG Carrier's personnel are responsible for the safety of the LNG Carrier. LNG Carrier Master and personnel **MUST** take all necessary precautions (whether or not so advised by the Terminal Representative), keeping in mind the hazards of LNG discharge operations, weather conditions and any other circumstances requiring special care or caution.

**THE LNG CARRIER'S CREW AND TERMINAL STAFF MUST NOT HESITATE TO IMMEDIATELY:**

- **NOTIFY ALNG OR LNG CARRIER CONTROL ROOM OF ANY SITUATION OR CONDITION THAT MAY COMPROMISE THE SAFETY OR INTEGRITY OF THE OPERATION AND**
- **IF REQUIRED ACTIVATE THE EMERGENCY SHUTDOWN.**

**ANY SITUATION THAT COMPROMISES THE OPERATION MUST BE REPORTED TO THE MASTER AND TERMINAL Offshore Installation Manager.**

### 7.2 Reduced visibility

When visibility at the terminal falls below 100 m as determined by observation of a known fixed distance, the Terminal Offshore Installation Manager (OIM) and LNG Carrier Master will jointly review the situation to ensure the safety and integrity of the off-loading operations are not being compromised and that appropriate safety measures are in place. This may include but is not limited to :

- Placing tugs at closer stand-by
- Additional deck and berth personnel for monitoring purposes

### 7.3 Emergency Procedures and Response

In addition to LNG Carrier specific emergency procedures, the Master is required to follow the following procedures (from the first listed action to the last action) in the event of an emergency situation arising on the LNG Carrier or the Terminal:

- Sounds a continuous blast on the whistle;
- Sounds the general alarm;
- Stops all cargo transfer and prepares to disconnect loading arms;
- Informs the Terminal Representative;
- Initiates the LNG Carrier's emergency response procedure;
- Informs the Maritime Authority on ;
- If necessary, request mobilization of the tugs fire-fighting capability (ALNG will be responsible for informing all relevant functions within ALNG and arranges for the Terminal's fire-fighting capability to be mobilized as required);
- Coordinates the fire fighting operations onboard and directing the use of official emergency teams and the Terminal's fire fighting equipment. If the fire cannot be controlled or contained or if the Terminal installation is seriously endangered, the Master and Terminal Offshore Installation Manager shall determine the necessity of removing the LNG Carrier from the berth;
- Upon notification of any incident associated with the LNG Carrier, communications will be established



between the Offshore Installation Manager, Master and Maritime Authority to confirm appropriate level of response.

The following incidents may potentially occur while the LNG Carrier is alongside the facility (Non exhaustive list):

- Fire/Explosion
- Pollution
- Uncontrolled release of LNG or LNG Vapor
- Man Overboard
- LNG Carrier out of position
- LNG Carrier-related incidents, including, mechanical failure affecting cargo operations, accident/medical emergency, power failure and failure of ship's moorings.

The prime consideration is the safety of personnel and the protection of the integrity of the Terminal and LNG Carrier. Quick response is essential in these situations and could require towing the LNG Carrier away from the Terminal.

For details on immediate specific actions to be taken:

[See Attachment 11.11 Emergency Response Actions:](#)

Subsequent actions to be taken will depend on how the particular incident develops.

Reference: Terminal Emergency Response Plan

## **7.4 Emergency Mooring Release**

The Terminal is fitted with a central emergency remote mooring hook release system.

The remote emergency mooring hook release will only be activated in the case of an extreme emergency which places either the LNG Carrier or the Terminal at extreme risk. The emergency mooring hook release may be activated from either the Terminal control room or locally at the mooring hook stations.

It must be understood that in the case of an extreme emergency the LNG Carrier would only be released from the jetty —after consultation with the Master—and agree to maneuver the LNG Carrier from the Terminal.

## **7.5 Fire Prevention**

Industry standard practices and fire prevention measures shall be adhered to in line with the Ship/Shore Safety checklist, including the following:

- The LNG Carrier's Fire Control and Safety Plan must be posted adjacent to the gangway and accommodation entrance.
- The LNG Carrier's water-spray system must be available at all times. The LNG Carrier's fire main system must be pressurized at all times. All fire hoses fitted with jet/spray branches to be available at each cargo tank dome area and the cargo manifold area are to be connected to the LNG Carrier's fire main system, of sufficient length, and ready for immediate use.
- Portable Dry Powder fire extinguishers must be conveniently placed near the manifold area in operation.
- The LNG Carrier's fixed dry-powder system must be ready for immediate use, with control boxes opened for access.

- All external doors, windows and portholes of the LNG Carrier must remain closed. Air conditioning and ventilator intakes likely to draw in air from the cargo area must be closed. However, air conditioning must be maintained on partial re-circulation in order to maintain a positive pressure in the accommodation. Window type air conditioners must be disconnected from their power supply.
- The use of LNG Carrier's radio installation is only authorized for receiving purposes. The LNG Carrier's main transmitting aerials must be disconnected and earthed while loading arms are connected to the LNG Carrier.
- The use of the LNG Carrier's RADAR during cargo handling operations is prohibited.
- Portable and fixed electric and electronic devices and equipment used in the LNG Carrier's hazardous areas must be of an ALNG approved type for such areas (for example EX) and satisfactorily maintained so as to ensure that its original certificate is not jeopardized.
- The use of naked lights is strictly prohibited.
- Smoking in the berth area is strictly prohibited. Smoking on board the LNG Carrier is only authorized in the designated smoking areas, unless previously agreed upon during the Pre-Transfer Meeting. Smoking and Non-smoking signs shall be displayed on board the LNG Carrier on arrival under the Master's authority.
- Hot work including hammering, chipping, and operations involving the use of any power tools are prohibited on board the LNG Carrier, unless the Terminal Offshore Installation Manager has issued a written agreement.
- The use of mobile telephones and pagers is prohibited on the Terminal and in the LNG Carrier's hazardous areas, unless of an approved type. Non-approved types must be switched off. Mobile telephones and pagers may be used on board the LNG Carrier inside the accommodation area and with the Master's permission.

In addition, the LNG Carrier shall also maintain a fire watch system, which includes routine monitoring of spaces and areas not continuously manned.

## **7.6 Emergency Towing Wires**

Except at terminals where no tugs are available, towing off wires of adequate strength and condition should be made fast to bollards on the tanker, forward and aft, and their eyes run out and maintained at, or about, the waterline. (ISGOTT Chp. 3.7.2)

## **7.7 Personal Protective Equipment**

It remains the Master's responsibility to ensure that his Crew wear appropriate personal protective equipment at all times on the LNG Carrier while it is located in the Terminal area.

## 8.0 State of Readiness

### 8.1 Stability/Draft/Trim

To enable safe cargo handling operations and emergency un-berthing, the Master is required to maintain appropriate draft, trim and list, and to retain sufficient positive stability, propeller and rudder immersion.

The maximum trim permitted is 3.0 meters by the stern.

**NOTE:** For custody-transfer measurement the LNG Carrier is requested to arrive at the Terminal on even keel and upright.

### 8.2 Defects and Deficiencies

Any defect or deficiency occurring in the LNG Carrier's manning, propulsion, cargo equipment or other control systems or equipment during the LNG Carrier's stay at the Terminal must be immediately reported to the Terminal Representative.

### 8.3 Repairs and Maintenance

**ANY REPAIR OR MAINTENANCE WORK (EITHER COLD OR HOT) WHICH WOULD IMPAIR THE SAFETY OF THE CARGO HANDLING OPERATIONS OR THE MANEUVERABILITY OF THE LNG CARRIER ARE STRICTLY PROHIBITED UNLESS THE MASTER HAS OBTAINED PRIOR WRITTEN PERMISSION AND A PERMIT TO WORK FROM THE TERMINAL OFFSHORE INSTALLATION MANAGER AND MARITIME AUTHORITY.**

Prior authorization from Terminal Off-Shore Installation Manager and Maritime Authority (72 hours before arriving at the Terminal) is required for:

- Any hot work
- Enclosed space entry
- Repairs and maintenance that may temporarily reduce the fire fighting, readiness to maneuver or safety systems for the LNG Carrier.

Such exceptional authorization will not be granted during cargo-handling operations. It will only be considered where unavoidable repair / breakdown occurs and may be conditional on the Master ensuring sufficient tugs to move the LNG Carrier are in place, as a contingency measure if so required.

The Master shall advise ALNG of any intended maintenance planned during the LNG Carrier's stay at the Terminal.

### 8.4 Crew Preparedness Readiness

At all times sufficient crew must remain ready on board the LNG Carrier to ensure that the correct level of personnel are available to respond to any emergency situation that may occur, including emergency un-berthing.

### 8.5 Engine Readiness

Boilers, main engines, steering machinery and other equipment essential for maneuvering must be maintained so as to enable the LNG Carrier to be un-berthed under her own engine power at short notice in case of emergency.

The LNG Carrier is not to be operated in the unmanned machinery space (UMS) mode at any time while in the Terminal area or at the berth.

## 8.6 Engine Safety

**TO PREVENT INADVERTANT OPERATION OF THE LNG CARRIER'S MAIN ENGINE WHILE THE LOADING ARMS ARE CONNECTED, THE TERMINAL WILL REQUEST THAT THE MAIN TURBINE STEAM INLET V/V IS SECURED IN THE CLOSED POSITION PRIOR TO THE TERMINAL GANGWAY LANDING ON THE LNG CARRIER'S DECK.**

The Terminal will give formal permission to the LNG Carrier to remove the seal as soon as the loading arms are disconnected and clear of the LNG Carrier.

**THE MASTER SHALL ENSURE THAT THE ENGINE IS SUFFICIENTLY WARMED UP AND READY FOR A FULL RANGE OF OPERATIONS BEFORE UNMOORING OPERATIONS ARE COMMENCED.**

**AUTO SPIN IS TO BE OFF AND THE TURNING GEAR ENGAGED UNTIL LOADING ARMS ARE DISCONNECTED**

**IT IS THE MASTER'S RESPONSIBILITY TO ADVISE THE PILOT IF THERE IS ANY LIMITATION ON THE RANGE OF USE OF THE LNG CARRIER'S MAIN PROPULSION.**

## 9.0 Pollution Avoidance

### 9.1 Introduction

The Master is responsible for preventing any kind of pollution. This includes bunkers, LNG, bilge water, dirty ballast, plastics, garbage, or any other matter that results in the pollution of the sea or atmosphere. The Master must ensure that all applicable International Convention for the Prevention of Pollution from Ships (MARPOL) and Italian laws and regulations are observed.

The LNG Carrier must have in place a Shipboard Oil Pollution Emergency Plan (SOPEP) approved by the flag State and have records to substantiate that the personnel onboard have received training in responding to emergency situations.

Any fines imposed for such pollution are for the LNG Carrier's account.

### 9.2 Leaks and Pollution Prevention

The LNG Carrier's crew must maintain a vigilant lookout to prevent and/or detect leaks or spillage during cargo handling operations.

Loading Arm connections to the LNG Carrier will be leak tested with the Terminal nitrogen supply prior to the commencement of cargo loading operations. The pressure used for this leak test will be agreed upon between the LNG Carrier and Terminal Representative and will be dependent upon the maximum expected operating pressure for the planned operation. The maximum allowed pressure in the loading arm will be detailed in the Cargo Handling Agreement, in the form attached and duly signed by the authorized representative of the Master and ALNG.

See: [Attachment 11.4 Cargo Handling Agreement](#)

Any unused LNG Carrier cargo and bunker connections must remain tightly closed and blanked.

While alongside the Terminal, the internal transfer of bunkers is not permitted.

Deck scuppers, drain holes, and drip trays on the LNG Carrier within the vicinity of any potential pollution area must be suitably plugged and any accumulated water or effluent drained off as required.

#### 9.2.1 Discharging Material Overboard

It is strictly prohibited to throw any material, papers, waste or goods either solid or fluid overboard.

#### 9.2.2 Gas-Freeing

Gas freeing of any of the LNG Carrier's tanks to the atmosphere is strictly prohibited in the Terminal area.

#### 9.2.3 Venting

Venting cargo vapor to the atmosphere is not permitted. The Master is required to report all incidents of cargo vapor venting to the Terminal and take all necessary action to prevent accidental venting.

In the event of an emergency situation during which venting occurs, cargo handling operations will be immediately stopped.

#### 9.2.4 Bilge Discharge

The discharge of bilge effluents, oil, or any mixture containing oil to sea is strictly prohibited.

Bilge overboard valves are to be visibly locked shut.

### **9.2.5 Ballast Discharge**

In accordance with the Maritime Safety Regulations and Italian laws and regulations, only clean segregated ballast is to be discharged from the LNG Carrier when at the Terminal.

### **9.2.6 Excessive Smoke**

Excessive smoke from the LNG Carrier's funnel and soot blowing are strictly prohibited.

## **9.3 Action in event of Pollution**

In the event of pollution, immediate notification **MUST** be given by the Master to ALNG and the Terminal Representative who will initiate the Terminal Emergency Response Plan.

This does not relieve the Master of his or her responsibility to activate the LNG Carrier emergency response plans and procedures.

In the event of infringements to pollution prevention rules, at ALNG option, the LNG Carrier will be rejected until appropriate actions are taken by the LNG Carrier in order to avoid any further risk of pollution.

### **9.3.1 LNG Leakage**

In the event of LNG leakage (including vapor release), LNG Carrier personnel shall immediately stop cargo transfer or activate the emergency shutdown system, if necessary.

If the gas cloud formed threatens the Terminal/berth area, the remote-controlled water monitors and other water spray systems shall be used by the Terminal to control the gas cloud. If necessary, the personnel at the berth will be evacuated.

Operations may resume only when the cause of leakage is definitely established and is completely stopped so that it cannot recur.

In the event that LNG leakage occurs on the jetty and/or loading arms, the Terminal shall immediately request the LNG Carrier to stop cargo transfer or will activate the emergency shutdown system, if necessary.

If the LNG leak endangers the LNG Carrier's structure, the water monitors on the Terminal shall be put to use to assist in preventing sub cooling of non-cryogenic structures of the LNG Carrier.

The LNG Carrier is required to maintain a water curtain at shipside in the loading arm area throughout the periods when the loading arms are connected.

# 10.0 Cargo Operations

## 10.1 Cargo Handling Agreement

The procedures for the intended cargo handling must be pre-planned, discussed and agreed upon in written in the attached form by the Terminal Representative and the Master prior to the start of operations.

See: [Attachment 11.4 Cargo Handling Agreement](#)

## 10.2 Control and Supervision of Operations

The LNG Carrier Cargo Control Room is to be manned at all times and under the control of a competent Officer.

The person(s) so appointed shall maintain communications with ALNG.

An efficient deck watch is to be maintained so that the mooring lines, tank deck, gangway and manifold are under constant observation.

## 10.3 Ship/Shore Pre-Transfer Meeting

Before the start of transfer operations, a pre-transfer meeting will be held onboard the LNG Carrier, in compliance with the Maritime Safety Regulations and Cargo Handling Manual.

The Terminal Representative will attend this meeting.

The designated responsible person(s) appointed by the Master to supervise the cargo handling operations on board the LNG Carrier shall attend this meeting representing the LNG Carrier.

The following forms (provided as attachments to this document) will be given by ALNG to the LNG Carrier. These forms will be discussed, completed and agreed upon by LNG Carrier and ALNG personnel during this meeting:

Attachments	In Agreement With	Remarks
<a href="#">Attachment 11.3 Ship/Shore Safety Check-List</a>	LNG Carrier/Terminal	
<a href="#">Attachment 11.4 Cargo Handling Agreement</a>	LNG Carrier/Terminal	
<a href="#">Attachment 11.12 Masters Letter of Acknowledgement</a>	LNG Carrier/Terminal	
<a href="#">Attachment 11.5 Communication Agreement</a>	LNG Carrier/Terminal	
<a href="#">Attachment 11.6 Emergency Contacts</a>	LNG Carrier/Terminal	
<a href="#">Attachment 11.10 ISPS Declaration of Security</a>	LNG Carrier/Terminal	

The purpose of this meeting is to ensure that all aspects of unloading and associated activities are clearly understood and documented using the Terminal Pre-Transfer Meeting Agenda

The agenda for this meeting shall include the following:

- Confirmation of pre-arrival safety checks
- Status of cargo tanks on arrival (temperature and pressure).
- Custody transfer and CTMS status
- Connection and disconnection of Unloading Arms.

- Testing of ESD
- Unloading Arms cool-down procedure.
- Unloading procedures and schedule,
- LNG Carrier cargo Heel requirements and stripping requirements
- Partial fill requirements and duration cargo tanks will be in this condition
- Ballasting.
- Weather Forecast.
- Communications with ALNG.
- Work Permit requirements
- Stand-by Tugs.
- Emergency Procedures, including unmooring operations and evacuation plans
- Emergency Shutdown
- Security Arrangements.
- No Smoking Areas

## **10.4 ESD**

To minimize the potential hazard of an LNG release, the LNG transfer system is protected by two emergency shutdown steps: ESD-1 and ESD-2.

### **ESD-1**

ESD 1 allows the rapid shutdown of the LNG Carrier's transfer pumps operation during an emergency and closure of the Terminal and LNG Carrier shutdown valves.

### **ESD-2**

The second of two emergency shutdown steps minimizing the potential hazard of an LNG release, ESD-2 automatically uncouples the loading arms when the arms are overextended. This emergency situation (e.g. Potential loading arm failure) generally occurs due to the LNG Carrier moving outside the design envelope of the loading arms.

**Reference:** For more details, see Cargo Handling Manual.



## 10.5 Emergency Shutdown

Justifications for activating an Emergency Shutdown include any emergency situation such as:

- Fire
- Explosion
- LNG leakage or spillage
- Failure of strategic equipment
- Any other event likely to endanger the Terminal, LNG Carrier, or their equipment or personnel

The Terminal Representative may direct the LNG Carrier to stop cargo operations and to prepare for emergency loading arm and LNG Carrier release.

The goal of the Cargo Emergency Stop system is to prevent or minimize damage to personnel, property, and the environment.

After the incident, a joint investigation of the incident and a survey of the LNG Carrier may be carried out by the Master, the Terminal Offshore Installation Manager, Maritime Authority and other ALNG personnel.

## 10.6 Resumption of Operations

When the emergency is over and the situation is secure, the initiator of the Cargo Emergency Shutdown should notify all stations accordingly and operations must be resumed only when safe.

Details of the occurrence are to be entered on the Emergency Shutdown Report form, and the cause is to be investigated.

In some cases the LNG Carrier may be required to leave the Terminal.

See: [ATTACHMENT 11.8 Emergency Shutdown Report](#)

**OPERATIONS MAY NOT RESUME UNTIL IT IS DETERMINED THAT IT IS SAFE TO DO SO. OPERATIONS MAY RESUME ONLY WITH TERMINAL OFFSHORE INSTALLATION MANAGER AND LNG CARRIER MASTER AGREEMENT AS DOCUMENTED ON THE EMERGENCY SHUTDOWN REPORT.**

## 10.7 Liquid and Vapor Arms Connection

LNG unloading will normally be carried out through three liquid-loading arms on the berth, unless previously agreed upon between the LNG Carrier and the Terminal Representative during the Pre-Transfer Meeting.

The LNG Carrier shall provide personnel to assist in the preparation of the loading arm connection assistance system under the coordination of the Terminal Representative. The connection assistance system will be placed on the LNG Carrier prior to berthing (*Ref: Cargo Handling Manual*)

The Master is required to ensure that the LNG Carrier's manifolds are ready for connection immediately after completion of berthing and that the LNG Carrier's manifold water curtain has been started **before** the Terminal maneuvers the arms on board.

To allow use of the cable-guided connection system and avoid interference with the Loading Arm, the LNG Carrier Manifold handrail needs to be lowered or removed prior to loading arm connection and disconnection. On completion of connection the handrail must be re-installed for offloading operations.

Liquid-loading arms and the vapor-return arm will be connected by the Terminal upon the LNG Carrier's confirmation of readiness, and after the Terminal is satisfied that the LNG Carrier is in compliance with the requirements of the Ship / Shore Safety Checklist.

After connection, the Terminal will purge the liquid and vapor arms will be purged with nitrogen (O<sub>2</sub> Content < 2% By Vol).

**Reference:** For more details, see Cargo Handling Manual.

## 10.8 Cargo Measurements/CTMS

The Master shall ensure that the cargo measurements are conducted in compliance with the "Terminal Measurement Manual" provided by ALNG.

The LNG Carrier's Custody Transfer Measurement system shall be in compliance with the requirements of the Terminal Measurement Manual, including:

- Calibration of LNG tanks
- Tank gauge approval and accuracy
- Liquid level gauging device accuracy, both primary and auxiliary systems
- Temperature gauging devices
- Pressure gauging devices

The Terminal Representative will be present and witness LNG measurement at the start and end of transfer operations.

## 10.9 Unloading Rates

The Master and the Terminal Representative will agree to the maximum transfer rate at the pre-transfer meeting. The agreed upon transfer rate will be noted on the cargo handling agreement. The Master and Terminal will monitor the transfer rates throughout all stages of cargo operations.

The Terminal can request a reduction in transfer rates if required before changing tanks or at any time during the transfer operations. The agreed upon normal standby notice period will be observed for normal rate reduction requests.

## 10.10 Maximum LNG Cargo Tank Vapor Pressure

The Master shall make all reasonable efforts to limit the vapor pressure in the cargo tanks to 140 mbarg.

The LNG cargo will not be considered to be Off-Spec LNG solely due to the cargo tank vapor pressure being above 140 mbarg; however, ALNG may, at its sole option:

- (i) declare the LNG Carrier to be not ready for unloading.
- (ii) stop discharge of LNG until the vapor pressure is reduced below this limit, or
- (iii) reduce the rate of unloading of the LNG Carrier.

## 10.11 Liquid and Vapor Arms Disconnection

The liquid and vapor arms will be drained to be free of LNG and purged with nitrogen (Hydrocarbon Content < 1% By Vol) by ALNG prior to disconnection.

The Master is required to ensure that the LNG Carrier's manifolds and cargo lines are ready for draining, purging, and disconnecting operations.

**THE MASTER SHALL ENSURE THAT STEPS ARE TAKEN TO PREVENT INADVERTENT OPERATION OF LNG CARRIER ESD/MANIFOLD VALVES THAT MAY RESULT IN A RELEASE OF LNG OR VAPOR THROUGH THE MANIFOLD AT THE TIME OF DISCONNECTION.**

The liquid and vapor arms will be disconnected and stowed one by one by ALNG. The Master is required to provide assistance from his crew on the LNG Carrier's manifold for communication purposes with ALNG during arm draining/purging and disconnection.

To allow use of the cable-guided connection system and avoid interference with the Loading Arm, the LNGC Manifold handrail needs to be lowered or removed prior to disconnection of the loading arms.

**LNG Carrier personnel should remain at a safe distance from the loading arms while they are being maneuvered by the Terminal.**

## **10.12 Ship / Shore Post-Transfer Meeting**

A post-transfer meeting will be held on the LNG Carrier, in compliance with the Maritime Safety Regulations and Cargo Handling Manual.

The Terminal Representative will attend this meeting representing the Terminal.

The designated responsible person(s) appointed by the Master to supervise the cargo handling operations on board the LNG Carrier shall attend this meeting representing the LNG Carrier.

During this meeting the Terminal Representative will discuss with the Master any observations of concern or issue that should be addressed by the LNG Carrier prior its return to the Terminal.

# 11.0 Appendix

## Attachment 11.1 Conditions of Use

### 1- Acceptance of LNG Carrier

All LNG Carriers calling at the Terminal are first subject to acceptance by ALNG and must satisfy:

- Terminal vetting requirements (Ref: Terminal Vetting Procedure)
- Berth compatibility requirements
- Terminal Insurance liability requirements

Combinations of weather and current conditions, size, trim, and handling qualities can also affect ALNG's decision to allow an LNG Carrier to berth at the Terminal. Should an LNG Carrier be rejected or delayed by ALNG for any reason, ALNG will supply the Master and the Ships Agent with written reasons for the rejection or delay.

The Terminal Representative is authorized by ALNG to confirm the continued eligibility of an LNG Carrier to remain at the Terminal.

ALNG reserves the right at all times to direct an LNG Carrier to leave the Terminal if the Terminal Representative or OIM determines that the continued presence of the LNG Carrier poses a threat to the Terminal, to safety, or to the environment. In such cases the LNG Carrier Master will first be consulted.

### 2- Master's Responsibility

Masters of LNG Carriers calling at the Terminal are solely responsible on behalf of the owners or charterers for the safe navigation, and operation of their LNG Carriers.

Nothing contained in the Terminal Regulations Manual relieves Masters of their responsibility from observing the normal precautions to prevent:

- Fire
- LNG release
- Tank over pressurization or vacuum
- Environmental pollution
- Damage to the Mooring System
- Damage to the Loading Arm System
- Damage to the Terminal

The Master remains at all times wholly and fully responsible for his or her LNG Carrier and for its officers and crew.

### 3- Government Officials

Italian government officials may be included in the boarding party. These may include:

- Customs Officer
- Immigration Officer and
- Port Authority Representative

The Ship's Agent is responsible for advising the Master of the number of personnel expected to board and if they will be required to stay onboard throughout transfer operations.

**4- Agency.**

The LNG Carrier Owner or Operator must have arranged local agency services. The representative of the agency may board with the boarding party. ALNG and its personnel do not perform any LNG Carrier agency functions.

**5- Anti-Pollution Regulation**

To prevent any kind of pollution it is the responsibility of the Master to ensure that his or her LNG Carrier complies with all applicable laws and regulation aimed at preventing pollution. This includes cargo, bunkers, bilge water, dirty ballast, plastics, garbage, or any other matter that results in the pollution of the sea or atmosphere. The Master must ensure that all applicable International Convention for the Prevention of Pollution from Ships (MARPOL) and Italian government regulations are observed.

LNG Carriers must have in place a Shipboard Oil Pollution Emergency Plan (SOPEP) approved by flag State and have records to substantiate that the personnel onboard received training in responding to emergency situations.

Any fines imposed by any administration and/or government for pollution caused by the LNG Carrier or for which the LNG Carrier or its owner are liable under any applicable law shall be for the LNG Carrier's Owner's account.

**6- Terminal hours of operation**

The Terminal normally operates on a continuous basis. However, during the first 6 months startup period (from the first commercial berthing at the Terminal), berthing will be daylight only. If berthing is technically feasible in satisfactory safety conditions before the expiry of the 6 months startup period, ALNG will notify to LNG carriers the possibility to perform the operation on a continuous basis.

LNG Carriers are discharged at any hour, weather and other circumstances permitting, at the full discretion of ALNG and the Harbor Master.

Mooring and unmooring operations are conducted on a 24-hour basis, always consistent with favorable wind and sea conditions, visibility, and availability of Pilot, tugs and line handling crews.

**7- Marine Terminal Closure**

Any decision regarding the opening and closing of the Terminal is made solely at the discretion of ALNG. ALNG will provide the Master with a written notice of the times during which the Terminal is closed.

LNG Carriers required to leave the Terminal area during periods of closure must keep in contact with the Terminal via VHF so that they are readily available when the Terminal reopens.

Closure could be due to adverse weather or current conditions or other operational reasons that prevent an LNG Carrier from mooring or remaining safely moored.

**8- Pilotage**

All berthing, mooring, and unmooring operations within the Terminal areas are to be conducted with a Pilot onboard, except in emergency un-berthing situations and when the Pilot is not available for a duly motivated reason.

The Master at all times remains in command of his or her vessel and is fully responsible for the safety of life, the LNG Carrier, the environment, and of third-party property.

The Pilot and Terminal personnel remaining on the LNG Carrier during unloading must be provided with food and accommodation of the standard usually provided for the LNG Carrier's officers.

**9- Surveyors and Government Representatives**

The LNG Carrier Officer in Charge (OIC) must inform any independent cargo surveyor or government representative appointed to inspect the cargo on board that LNG Carrier of cargo information including stowage, load-port information, LNG quantities and specifications.

The OIC must ensure that surveyors and government representatives are properly accommodated and that all reasonable requests are honored.

If the OIC has any doubts, or if a problem or misunderstanding occurs, the OIC must inform the Terminal Representative who will endeavor to resolve any situation to the satisfaction of all concerned.

### **10- Drugs and Alcohol**

As part of the pre-qualification screening requirements that allows the LNG Carrier to operate at the Terminal, the owners or operators of the LNG Carrier must have in effect a drug and alcohol abuse policy. The Owner's and/or Operator's drug and alcohol abuse policy must meet or exceed the standards specified in the Oil Companies International Marine Forum Guidelines for the Control of Drugs and Alcohol Onboard LNG Carrier.

The Master must ensure that no drugs (other than those in the medical locker) are onboard and that no alcohol is used or is available for use while the LNG Carrier is present in the Terminal area.

All personnel onboard the LNG Carrier located within the Terminal area must comply with the LNG Carrier's Owners and Operators Substance Abuse and Drug and Alcohol Use Policy, a copy of which must be posted onboard.

LNG Carrier personnel are reminded that while approaching, at and leaving the Terminal all personnel must have a zero blood alcohol level.

### **11- Visitors to the Terminal or LNG Carrier**

All visitors to the Terminal or LNG Carrier, including user representatives, independent surveyors and Ship's Agents will comply with the Terminal procedures and policies, including Safety, and Drug and Alcohol policies.

### **12 - Removal of Wrecks**

For removal of wreck purpose, ALNG will ask the LNG Carrier in writing to remove the wreck, the LNG Carrier or part thereof that becomes an obstruction to the performance of the Terminal in any part of the Restricted areas and Safety Zones (as defined by art. 2.2 of the Terminal Regulation) or in the approaches to the Restricted areas and Safety Zones ("Wreck"). If the Wreck is not removed 24 (twenty-four) hours from the above request, ALNG is empowered to act as the agent for the LNG Carrier or the Owner. In this capacity, ALNG may take any steps deemed necessary to remove the Wreck even without further notification to the Owner of the LNG Carrier if needed by the circumstances.

All expenses for such removal must be borne by the LNG Carrier causing the obstruction or by those owning it at the time the removal is started. ALNG is entitled to reimbursement by the Owner of the LNG Carrier for any reasonable expenses incurred unless they have been caused in whole by the negligence of ALNG.

### **13 - Provision of services**

*13.1 - Compliance with laws :* All services, facilities and assistance provided by or on behalf of ALNG, its parent companies, subsidiaries, or affiliates, or its or their servants, agents, or contractors, their parent companies, subsidiaries, or affiliates, or its or their servants, agents, or contractors whether or not any charge is made by ALNG therefore, are provided subject to all applicable laws and regulations including but not limited to bylaws and port regulations, safety regulations, and towage conditions for the time being in force.

*13.2 - ALNG's representative on vessel :* The services of the Terminal Representative are provided with the express understanding and condition that when any Terminal Representative furnished by ALNG goes on board a LNG Carrier for the purpose of assisting such LNG Carrier, he or she becomes for such purposes the servant of the Owners or Charterers of the vessel; and ALNG shall in no way be liable for any damage or personal injury including death of any nature whatsoever, incurred by any person whomsoever, in any way connected with, contributed by, or resulting from the advice or assistance given or for any action taken by

such Terminal Representative, whether negligent or otherwise, while on board or in the vicinity of such assisted vessel.

*13.3 - LNG Carrier Navigation* : except gross negligence or willful misconduct, neither ALNG its servants, co-venturers, agents, contractors in whatever capacity it may be acting shall not be in any way whatsoever responsible for or liable for any contribution with respect to any loss, damage, or delay, from whatsoever cause, or arising whether directly or indirectly in consequence of any assistance, advice, or instructions whatsoever given or tendered in respect of any vessel, whether by way of the provision of navigation facilities, including berthing aids, or otherwise howsoever. In all circumstances the Master of any LNG Carrier shall remain solely responsible on behalf of his or her owners for safety and proper navigation of his or her LNG Carrier.

#### **14 - Liabilities and indemnities**

14.1 While ALNG shall exercise reasonable care to ensure that the mooring, premises, facilities, property, gear, craft, and equipment provided by ALNG are safe and suitable for vessels permitted or invited to use them, no guarantee, express or implied, of such safety and suitability is given by ALNG that such mooring, premises, facilities, property, gear, craft, and equipment are devoid of defects or are fit for the service or use to which it is put, and every vessel shall be and remain at the sole risk of the Owners and Master thereof .

14.2 ALNG, shall not be held responsible (or liable for any contribution) with respect to any loss, damage, or delays whatsoever that may be sustained by or occur to any vessel or to its Owners or its crew or cargo or for any part thereof (whether such cargo is on board or in the course of discharge) by whomsoever and by whatsoever cause such as loss, injury, damage, or delay is occasioned, unless it is caused in whole by the negligence of ALNG

14.3 If in connection with or by reason of the use by any LNG Carrier of any berth, or any other part of the Terminal or other ALNG premises, or of any gear or equipment provided by or on behalf of ALNG, or of any craft, or of any other facilities or property, of any sort whatsoever, belonging to or provided by on behalf of ALNG, any damage or injury is caused to such mooring, premises, gear or equipment, craft, or other facility or property, or any third party, or any vessel its owners and crew, from whatsoever cause such damage may arise, as a result of any negligence or fault on the part of the LNG carrier and/or its Master and/or its crew, in any such event the vessel and the LNG Carrier shall hold ALNG harmless from and indemnified against all such damage and injury and against loss sustained by ALNG consequent thereon, unless such damage has been caused in whole by the negligence of ALNG.

14.4 The LNG Carrier shall hold ALNG harmless from and indemnified against all and any action, liabilities, claims, damages, cost, awards, and expenses arising whether directly or indirectly out of any loss, damage, personal injury, including death or delay of whatsoever nature occasioned to any third party or any vessel, its Owners and crew, including the LNG Carrier and owners and crew, caused or contributed to by any negligence or fault on the part of the LNG Carrier or any part thereof or by any substance or material leaking or escaping therefrom or by any negligence or fault on the part of the Master or crew or by any other servant or agent of the Owners unless such loss, damage personal injury, including death or delay has been caused in whole by the negligence of ALNG.

14.5 Neither party shall be responsible for indirect or consequential damages, including but not limited to the loss of profit

#### **15 - Limitation of Liability**

15.1 Each party shall be liable with respect to the other party for any claim under article 14, for a sum not exceeding the amount of 150,000,000.00 (one-hundred-fifty-million) USD per event. It is expressly agreed that this is the maximum liability of each party to the other party under article 14

15.2 For any claim other than those specified in paragraph 15.1, including but not limited to those under articles 12 and 18, the LNG carrier and/or their Owners and/or the Terminal as the case may be, shall not be deprived of any right they may have to limit their liability in accordance with any applicable law for the time being in force.

## 16 - Force Majeure

### 1) - Meaning of Force Majeure

Force Majeure means any event or circumstance beyond the reasonable control of the Party claiming such Force Majeure, which could not be prevented by due care and reasonable expense, which has the effect of making performance by such Party of its obligations under the Terminal Regulation, in whole or in part, impossible and/or unlawful ("**Force Majeure**" or "**Force Majeure Event**").

### 2) - List of Force Majeure Events

Force Majeure shall include, but not limited to the following events:

- (a) war (whether declared or undeclared), civil war, acts of terrorism, riot, civil disturbance, blockade, insurrection;
- (b) acts of God, explosion, fire, flood, atmospheric disturbance, lightning, storm, typhoon, tornado, earthquake, landslide, soil erosion, subsidence, washout or epidemic;
- (c) any change in a Regulation or other applicable laws, regulations, administrative or judicial provisions or such like, or coming into effect of a new regulation or other applicable laws, regulations, administrative or judicial provisions or such like, excluding any that concern tax;
- (d) any refusal, revocation, cancellation, or non-renewal of any authorization, permit, license and/or concession required by the Affected Party to perform its obligations under this Terminal regulation;
- (e) loss of, damage to, or any failure of all or part of the ALNG or of the Grid;
- (f) strikes including any national strike (*sciopero generale*), gas or energy sector strike (*sciopero di categoria*), or company strike (*sciopero aziendale*); and
- (g) any condition or situation which presents an imminent threat of loss or damage to any property, or of danger to the life or health of any person.

### 3) - Relief for Force Majeure

Should a Force Majeure Event occur, the Party affected by such Force Majeure Event (the "Affected Party") shall be relieved of its obligations under the Terminal regulation for as long as and to the extent that the performance of its obligations is rendered impossible and/or unlawful by such Force Majeure Event, and the other Party shall be relieved of its corresponding obligations under Terminal regulation to the same extent.

### 4) - Action to be taken on Force Majeure

Should any Force Majeure Event occur, the Affected Party shall:

- (a) promptly give notice to the other Party, by stating (i) the date, hour and place where the claimed Force Majeure Event has occurred (ii) a detailed description of the claimed Force Majeure Event (iii) the effects of the claimed Force Majeure Event; and (iv) the programme that the Affected Party intends to implement to remedy the Force Majeure Event and resume normal performance of its obligations under the Terminal Regulation; and
- (b) in addition to paragraphs (i) through (iv) above, where the Affected Party is ALNG: (aa) the estimated period during which performance of the service will be suspended or reduced due to the Force Majeure Event and (bb) the service that the ALNG reasonably expects will not be performed or will only be partially performed during the period for which the Force Majeure Event and its effects are estimated to last; and
- (c) upon the expiry of each consecutive thirty (30) Day period following service of the notice pursuant to paragraph (a) above, update the information described in paragraph (a) above by



notifying the other Party the following: (i) the developments in the situation; (ii) the actions being taken to remedy the Force Majeure Event and its effects; and (iii) the date on which it is reasonably expected that such Force Majeure Event and its effects will end;

- (d) use all reasonable endeavors (including the incurrence of reasonable expenditure) to overcome the Force Majeure Event and minimize where possible its effects on the performance of such Affected Party's obligations;
- (e) allow or procure the other Party, its employees, contractors, agents and/or other third party representatives (each acting for or on behalf of such other Party and with its specific approval), upon giving reasonable prior notice and at such other Party's sole risk and expense, to have access to the Terminal and/or any other place where the Force Majeure Event has occurred (to the extent that it is within the reasonable control of the Affected Party to do so), in order to check and assess the duration and effects of the Force Majeure Event, provided that such access would not present a danger to the life or health of any person; and
- (f) promptly give written notice to the other Party when the Affected Party is again able to perform its obligations under the relevant Capacity Agreements and shall thereupon promptly resume performance of its obligations thereunder.

### **17- Changes to the Terminal Regulation**

ALNG may change the terms of this Terminal Regulation by giving the LNG carrier Owner at least three months' written notice by letter or e-mail. Such change applies as of the date ALNG specifies in the notice. The LNG carrier Owner agrees that he consents to any such change if he does not notify ALNG in writing, at the latest 15 (fifteen) days prior to the effective date specified in ALNG's written notice, that he disagrees with the change. If the LNG Carrier disagrees with the change ALNG has the option to withdraw from the Terminal regulation with a 15 (fifteen) days notice without any penalty or liability to the LNG Carrier, ALNG or any third party. In this last case the LNG Carrier has no more access to the Terminal and/or the Restricted areas and Safety Zones.

### **18- Pollution**

LNG Carriers shall be entered under International Tanker Owners Pollution Federation Limited (ITOPF). For any oil pollution caused by the LNG Carrier, its Master, or crew, the LNG Carrier and its Owners shall protect, defend, indemnify, and hold harmless ALNG from and against any loss, damage, liability, suit, claim, or expense arising therefrom.

### **19- Parties and related parties.**

It is hereby expressly agreed that no servant or agent of ALNG shall be under any liability whatsoever for any loss, damage, or delay of whatsoever kind arising or resulting directly or indirectly from any act of neglect or default on its part while acting in the course of or in connection with its employment, and without prejudice to the generality of the foregoing provisions in this clause, every exemption, limitation, condition, and liberty herein contained and every right, exemption from liability, defense, and immunity of whatsoever nature applicable to ALNG or to which ALNG is entitled hereunder shall also be available and shall extend to protect every such servant or agent of ALNG acting as aforesaid, and for the purpose of all the foregoing provisions of this clause ALNG is or shall be deemed to be acting as agent or trustee on behalf of and for the benefit of all persons who are or might be its servants or agents from time to time, and all such persons shall to this extent be or be deemed to be parties to this agreement.

### **20- Governing Law and Jurisdiction**

The Terminal regulations, including these conditions of use, are governed by Italian law and any dispute arising out or in connection with the terminal regulations will be exclusively referred to the court of Milan.

<b>Attachment 11.2 Pre-Arrival Information</b>	
1	<b>LNG CARRIER NAME AND CALL SIGN?</b>
2	PORT OF REGISTRY:
3	NAME OF MASTER:
4	GRT/NRT:
5	ARRIVAL DISPLACEMENT:
6	SUMMER DEADWEIGHT (METRIC TONNES)
7	LENGTH OVERALL (m) :
8	DRAFT FORE AND AFT ON ARRIVAL (m):
9	DRAFT FORE AND AFT ON SAILING (m):
10	ADVISE ANY LNG CARRIER DEFECT AFFECTING CARGO OPERATIONS OR MANEUVERING / MOORING ABILITY.
11	CONFIRM P&I CLUB NAME AND VALIDITY:
12	CONFIRM POLLUTION COVER
13	LAST 3 PORTS OF CALL
14	IS GAS DETECTION SYSTEM FULLY OPERATIONAL?
15	DOES LNG CARRIER HAVE A FULLY OPERATIONAL IG SYSTEM?
16	ARE VOID SPACES GAS FREE?
17	ARE SMOKE/FIRE DETECTION AND FIXED FIRE EXTINGUISHING SYSTEMS FULLY OPERATIONAL?
18	AMOUNT AND GRADE OF CARGO FOR DISCHARGE:
19	SIZE, RATING AND STANDARDS OF CARGO MANIFOLD CONNECTION?
20	DISTANCE OF CENTER MANIFOLD FROM THE BOW AND DISTANCE OF SPRINGLINE FAIRLEADS FROM THE CENTER OF THE MANIFOLDS
21	HEIGHT OF MANIFOLD ABOVE THE KEEL:
22	DISTANCE BETWEEN MANIFOLD FLANGES CENTERS:
23	DISTANCE OF MANIFOLD FROM SHIP'S SIDE:
24	DISTANCE FROM MANIFOLD FACE TO FIRST FULL RESTRAINING BRACKET:
25	MAXIMUM UNLOADING RATE:
26	ANTICIPATED UNLOADING TIME:
27	CONFIRM CARGO TRANSFER EMERGENCY STOPS FULLY OPERATIONAL AND DATE OF LAST TEST
28	CONFIRM TANK HIGH LEVEL AND PRESSURE ALARMS OPERATIONAL:
29	CONFIRM THAT REMOTELY OPERATED MANIFOLD VALVES HAVE BEEN OPERATED THROUGH A COMPLETE OPEN/CLOSED CYCLE, ENSURE CORRECT FUNCTIONING AND ADVISE VALVE TYPE AND ACTUAL CLOSING TIME.
30	MAIN ENGINE TESTED ASTERN, BOW THRUSTER TESTED BEFORE PILOT BOARDS
31	DOES LNG CARRIER COMPLY WITH ISM CODE?
32	VALIDITY OF ISM DOC/SMC AND ISSUING AUTHORITY
33	COPY OF UP TO DATE "SIRE" OFFICER MATRIX

**ALNG Terminal Regulations and Information Booklet**

34	CONFIRM RECIEPT OF TERMINAL REGULATIONS AND INFORMATION BOOKLET AND PORT REGULATIONS		
35	LNG CARRIER'S INMARSAT No.	TEL No.	FAX No.
36	LNG CARRIERS AGENT AND CONTACT DETAILS		
37	LNG CARRIER OPERATOR EMERGENCY CONTACT DETAILS		

**Attachment 11.3 Ship/Shore Safety Check-List**

LNG Carrier:

Date:

**INSTRUCTIONS FOR COMPLETION:**

The safety of operations requires that all questions should be answered affirmatively.

If an affirmative answer is not possible, the reason should be given and written agreement reached upon appropriate precautions to be taken between the LNG Carrier and the Terminal. Where any question is not considered to be applicable, a note to that effect should be inserted in the remarks column. Detailed guidelines for completing this check-list are contained in the International Safety Guide for Carrier and Terminals version 5. This check-list is to be completed during the Pre-Loading Meeting, except Part C, Item 11, which will be confirmed after the ESD (1) test under cold condition. Cargo handling operations will not be started until this check-list has been fully completed.

- The presence of this symbol in the columns "LNG CARRIER" and "TERMINAL" indicates that checks shall be carried out by the party concerned.

The presence of the letter A and P or R in the column "CODE" indicates the following:

- A - Any referenced procedures and agreements should be in writing in the remarks column of this checklist or other mutually acceptable form. In either case, the signature of both parties should be required.
- P - In the case of a negative answer the operation shall not be carried out without the permission of the Port Authority.
- R - Indicates items to be rechecked at intervals not exceeding that agreed upon in the declaration.

**PART 'A' GENERAL**

	<b>GENERAL</b>	<b>LNG Carrier</b>	<b>TERMINAL</b>	<b>CODE</b>	<b>REMARKS</b>
1.	There is safe access between the LNG Carrier and shore <sup>1</sup>	<input type="checkbox"/>	<input type="checkbox"/>	<b>R</b>	
2	The LNG Carrier is securely moored	<input type="checkbox"/>	<input type="checkbox"/>	<b>R</b>	
3	The agreed ship/shore communication system is operative	<input type="checkbox"/>	<input type="checkbox"/>	<b>AR</b>	<b><u>System Backup system</u></b>
4.	Emergency towing off pennants are correctly rigged and positioned	<input type="checkbox"/>	<input type="checkbox"/>	<b>R</b>	
5.	The LNG Carrier's fire hoses and fire-fighting equipment are positioned and ready for immediate use	<input type="checkbox"/>		<b>R</b>	
6	The Terminal's fire-fighting equipment is positioned and ready for immediate use		<input type="checkbox"/>	<b>R</b>	
7	The LNG Tanker's cargo and bunker hoses, pipelines and manifolds are in good condition, properly rigged and appropriate for the service intended	<input type="checkbox"/>			
8	The Terminal's cargo and bunker hoses or arms are in good condition, properly rigged and appropriate for the service intended		<input type="checkbox"/>		
9	The cargo transfer system is sufficiently isolated and drained to allow safe removal of blank flanges prior to connection	<input type="checkbox"/>	<input type="checkbox"/>		
10	Scuppers and save-alls on board are effectively plugged and drip trays are in position and empty	<input type="checkbox"/>		<b>R</b>	
11.	Temporarily removed scupper plugs will be constantly monitored	<input type="checkbox"/>		<b>R</b>	
12	Shore spill containment and sumps are correctly managed	<input type="checkbox"/>			
13	The LNG Carrier's unused cargo and bunker connections are properly secured with blank flanges fully bolted	<input type="checkbox"/>			
14.	The Terminal's unused cargo and bunker connections are properly secured with blank flanges fully bolted		<input type="checkbox"/>		

<sup>1</sup> As used herein, unless the context requires otherwise, references to "shore" shall be to the Terminal.

GENERAL		LNG Carrier	TERMINAL	CODE	REMARKS
15.	All cargo, ballast and bunker lids are closed	<input type="checkbox"/>			
16	Sea and overboard discharge valves, when not in use, are closed and visibly secured	<input type="checkbox"/>			
17	All external doors, ports and windows in the accommodation, stores and machinery spaces are closed. Engine room vents may be open	<input type="checkbox"/>		R	
18	The LNG Carrier's emergency fire control plans and located externally	<input type="checkbox"/>			Position
19.	The LNG Carrier is ready to move under its own power	<input type="checkbox"/>		PR	
20	There is an effective deck watch in attendance on board and adequate supervision of operations and in the Terminal	<input type="checkbox"/>	<input type="checkbox"/>	R	
21	There are sufficient personnel on board and ashore to deal with an emergency	<input type="checkbox"/>	<input type="checkbox"/>	R	
22	The procedures for cargo, bunker and ballast handling have been agreed upon	<input type="checkbox"/>	<input type="checkbox"/>	AR	
23	The emergency signal and shutdown procedure to be used by the LNG Carrier and shore have been explained and understood	<input type="checkbox"/>	<input type="checkbox"/>	A	
24	Material Safety Data Sheets (MSDS) for the cargo transfer have been exchanged where requested	<input type="checkbox"/>	<input type="checkbox"/>	PR	
25	The hazards associated with toxic substances in the cargo being handled have been identified and understood	<input type="checkbox"/>	<input type="checkbox"/>		
26	An International Shore fire connection has been provided	<input type="checkbox"/>	<input type="checkbox"/>		
27	The requirements for closed operations has been agreed upon	<input type="checkbox"/>	<input type="checkbox"/>	R	
28	Where a vapor return line is connected, operating parameters have been agreed	<input type="checkbox"/>	<input type="checkbox"/>	AR	

GENERAL		LNG Carrier	TERMINAL	CODE	REMARKS
29	Independent high-level alarms, if fitted, are operational and have been tested	<input type="checkbox"/>		AR	
30	Adequate electrical insulating means are in place in the ship/shore connection	<input type="checkbox"/>	<input type="checkbox"/>	AR	
31	Terminal lines are fitted with a non-return valve, or procedures to avoid back filling have been discussed		<input type="checkbox"/>	PR	
32	Smoking rooms have been identified and smoking requirements are being observed	<input type="checkbox"/>	<input type="checkbox"/>	AR	Nominated smoking rooms
33	Naked light regulations are being observed?	<input type="checkbox"/>	<input type="checkbox"/>	AR	
34	Ship/shore telephones, mobile phones and pager requirements are being observed	<input type="checkbox"/>	<input type="checkbox"/>	AR	
35	Hand torches (flashlights) are of an approved type	<input type="checkbox"/>	<input type="checkbox"/>		
36	Fixed VHF/UHF transceivers and AIS equipment are on the correct power mode or switched off	<input type="checkbox"/>			
37.	Portable VHF/UHF transceivers are of an approved type	<input type="checkbox"/>	<input type="checkbox"/>		
38.	The LNG Carrier's main radio transmitter aerials are earthed and radars switched off	<input type="checkbox"/>			
39	Electrical cables to portable electrical equipment within the hazardous area are disconnected from power	<input type="checkbox"/>	<input type="checkbox"/>		
40	Window-type air conditioning units are disconnected	<input type="checkbox"/>			
41	Positive pressure is being maintained inside the accommodation, and air conditioning intakes, which may permit the entry of cargo vapors are closed	<input type="checkbox"/>			
42	Measure have been taken to ensure sufficient mechanical ventilation in the pump room	<input type="checkbox"/>		R	
43	There is provision for emergency escape	<input type="checkbox"/>	<input type="checkbox"/>		
44	The maximum wind and swell criteria for operations has been agreed upon	<input type="checkbox"/>	<input type="checkbox"/>	A	Stop cargo at Disconnect at Un-berth at

GENERAL		LNG Carrier	TERMINAL	CODE	REMARKS
45	Security protocols have been agreed between the LNG Carrier's Security Officer and the Terminal's Security Officer, if appropriate	<input type="checkbox"/>	<input type="checkbox"/>	A	
46	Where appropriate, procedures have been agreed for receiving nitrogen supplied from shore, either for inerting or purging LNG Carrier's tanks, or for line clearing into the LNG Carrier	<input type="checkbox"/>	<input type="checkbox"/>	AP	



**PART 'C' BULK LIQUEFIED GASES**

Bulk Liquefied Gases		LNG Carrier	Terminal	Code	Remarks
1.	Material Safety Data Sheets are available giving necessary data for safe handling of the cargo	<input type="checkbox"/>	<input type="checkbox"/>		
2.	A manufacturer's inhibition certificate, where applicable, has been provided	<input type="checkbox"/>	<input type="checkbox"/>	<b>P</b>	
3.	The water spray system is ready for immediate use?	<input type="checkbox"/>	<input type="checkbox"/>		
4.	There is sufficient suitable protective equipment (including self-contained breathing apparatus) and protective clothing ready for immediate use?	<input type="checkbox"/>	<input type="checkbox"/>		
5.	Hold and inter-barrier spaces are properly inerted or filled with dry air, as required	<input type="checkbox"/>			
6.	All remote control valves are in working order	<input type="checkbox"/>	<input type="checkbox"/>		
7.	The required cargo pumps and compressors are in good order, and the maximum working pressures have been agreed between LNG Carrier and shore	<input type="checkbox"/>	<input type="checkbox"/>	<b>A</b>	
8.	Pre-liquefaction or boil-off control equipment is in good order?	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
9.	The gas detection equipment has been properly set for the cargo, is calibrated, has been tested and inspected and is in good order	<input type="checkbox"/>	<input type="checkbox"/>		
10.	Cargo system gauges and alarms are correctly set and in good order	<input type="checkbox"/>	<input type="checkbox"/>		
11.	Emergency shut down systems have been tested and are working properly	<input type="checkbox"/>	<input type="checkbox"/>		
12.	LNG Carrier and shore have informed each other of the closing rate of ESD valves, automatic valves or similar devices	<input type="checkbox"/>	<input type="checkbox"/>	<b>A</b>	
13.	Information been exchanged between LNG Carrier and shore on the maximum / minimum temperatures / pressures of the cargo to be handled	<input type="checkbox"/>	<input type="checkbox"/>	<b>A</b>	
14.	Cargo tanks protected against inadvertent overfilling at all times while any cargo operations are in progress	<input type="checkbox"/>			




Bulk Liquefied Gases		LNG Carrier	Terminal	Code	Remarks
15.	The compressor room is properly ventilated, <u>the electrical motor room is properly pressurized and is the alarm system working</u>	<input type="checkbox"/>			
16.	Cargo tank relief valves are set correctly and actual relief valve settings clearly and visible displayed (record settings below)	<input type="checkbox"/>	<input type="checkbox"/>		
Tank No 1	<input type="text"/>	Tank No 4	<input type="text"/>		
Tank No 2	<input type="text"/>	Tank No 5	<input type="text"/>		
Tank No 3	<input type="text"/>	Tank No 6	<input type="text"/>		
<b>Declaration</b>					
We, the undersigned, have checked, where appropriate jointly, the items on this checklist and have satisfied ourselves that the entries we have made are correct to the best of our knowledge.					
We have also made arrangements to carry out repetitive checks as necessary and agreed that those items with the letter "R" in the column "Code" should be re-checked at intervals not exceeding _____ hours.					
For LNG Carrier			For Terminal		
Name :			Name :		
Rank :			Position :		
Signature			Signature		
Date:			Date:		
Time:			Time:		
Date/ Time:					
For LNG Carrier					
For Terminal					

<b>Attachment 11.4 Cargo Handling Agreement</b>						
LNG CARRIER :				DATE :		
QUANTITY OF CARGO ONBOARD:				m3		
QUANTITY OF CARGO TO DISCHARGE :				m3		
CNFIRM VAPOR WILL BE SENT BACK TO LNG Carrier:						
NUMBER OF BERTH LIQUID ARMS TO BE USED FOR TRANSFER :						1 2
4 LIQUID 3 VAPOR						
LNG's CARGO LINES CONDITION : <input type="checkbox"/> WARM <input type="checkbox"/> COOLED-DOWN TO :                      C						
TANKS CONDITION	TK No. 1	TK No.2	TK No.3	TK No.4	TK No.5	TK No.6
PRESSURE (bar or Kpa)						
CARGO TANK TEMPERATURE (°C)						
Top & Bottom Average (Membrane)						
Equator (Moss)						
LEVEL						
VOLUME						
CONFIRM OPTICAL/ELECTRICAL E.S.D. IS OPERATIVE :			CONFIRM PNEUMATIC E.S.D IS OPERATIVE:			
CONFIRM OPTICAL/ELECTRICAL E.S.D WILL BE USED AS			CONFIRM PNEUMATIC E.S.D WILL BE			
PRIMARY MEANS IN CASE OF EMERGENCY :			USED IN CASE OF OPTICAL/ELECTRICAL E.S.D			
<input type="checkbox"/>			FAILURE : <input type="checkbox"/>			
CLOSING RATES OF SHORE E.S.D VALVES:			CLOSING RATES OF SHIP E.S.D VALVES:			
STARTING TIME COOLDOWN (EST):			DURATION OF COOL-DOWN :			
STARTING TIME OF DISCHARGE (EST) :			DURATION OF DISCHARGE (EST) :			
CONFIRM STOP DISCHARGE ON :			<input type="checkbox"/> LNG CARRIER REQUEST			
<input type="checkbox"/> TERMINAL REQUEST						
<b>LNG COOLDOWN RATE REQUD BY TERMINAL (M3/HR.)</b>			<b>AGREED UPON MANIFOLD BP :</b>			
			Bar or Kpa			

<b>MAX. DISCHARGE RATE FOR TERMINAL:</b> (M3/HR.)	<b>MAX. DISCHARGE RATE FOR LNG CARRIER:</b> (M3/HR.)
<b>MAXIMUM MANIFOLD BP:</b> Bar or Kpa	<b>MAXIMUM MANIFOLD BP :</b> Bar or Kpa
TERMINAL STARTING RATE REQUIRED: (M3/HR.)	STRIPPING RATE: (M3/HR.)
NOTIFICATION TIME REQUIRED FOR SLOWING DOWN	NOTIFICATION TIME REQUIRED FOR STOPPING
EXPECTED RANGE OF VAPOR RETURN TEMPERATURE (Degree C)	MAXIMUM FLOW OF VAPOR RETURN (M3/HR)
CONFIRM ALL NECESSARY CARGO HANDLING PROCEDURES HAVE BEEN UNDERSTOOD:	
<b>FOR TERMINAL (person in charge)</b>	<b>FOR LNG Carrier (person in charge)</b>
Name	Name
Position	Position
Signature	Signature
Time	Date     /     /

**Attachment 11.5 Communication Agreement**

**A FIBER OPTIC / ELECTRICAL LINK HAS BEEN CONNECTED TO YOUR LNG CARRIER. IT WILL ENABLE THE FOLLOWING MEANS OF COMMUNICATIONS:**

E.S.D FROM THE LNG Carrier (emergency shut-down)	→	Uni-directional. Can be activated at any time from the LNG Carrier in case of emergency. Inform Terminal as far as possible before use.
E.S.D FROM TERMINAL (emergency shut-down)	→	Uni-directional. Can be activated at any time from the Terminal in case of emergency. Inform LNG Carrier as far as possible before use.
 HOT LINE	→	Bi-directional. To contact directly the Terminal Control Room in case of emergency.
 TERMINAL INTERNAL LINE	→	Bi-directional. To exchange normal information between LNG Carrier and Terminal Control Room during cargo handling operations.
 PUBLIC LINE	→	Bi-directional. Enable the LNG Carrier to use the national telephone network.
MOORING LINE TENSION DATA	→	Uni-directional. For the LNG Carrier to receive information on the tension of each mooring line.

**A PNEUMATIC LINK HAS BEEN CONNECTED TO YOUR LNG Carrier. IT WILL ENABLE THE FOLLOWING MEANS OF COMMUNICATION :**

E.S.D FROM THE LNG Carrier (emergency shut-down)	→	Uni-directional. Can be activated at any time from the LNG Carrier in case of emergency. Inform Terminal as far as possible before use.
E.S.D FROM TERMINAL (emergency shut-down)	→	Uni-directional. Can be activated at any time from the Terminal in case of emergency. Inform LNG Carrier as far as possible before use.

**In the event that your LNG Carrier does not have a fixed U.H.F. radio system compatible with the Terminal, a PORTABLE U.H.F RADIO will be provided to your LNG Carrier. IT WILL ENABLE THE FOLLOWING MEANS OF COMMUNICATIONS :**

<b>Terminal Control Room</b>	<b>UHF ch.</b>	<b>VHF ch.</b>
<b>Jetty Personnel</b>	<b>UHF ch.</b>	<b>VHF ch.</b>
<b>Marine Terminal Representative</b>		

<b>FOR LNG Carrier (person in charge)</b>	<b>FOR TERMINAL</b>
Name/Position	Name/Position
Signature	Signature
Time	Date / /

**Attachment 11.6 Emergency Contacts and Signals**

**EMERGENCY CONTACTS AND SIGNALS**

In event of an EMERGENCY the following communication channels are available.

**Terminal Control-room via:**

<b>HOTLINE</b>
<b>UHF</b>
<b>VHF</b>

**If no contact immediately contact the onboard Terminal Representative**

**In the event of an EMERGENCY on the Terminal the following Audible and Visual Signals will be made**

<b>Alarm Type</b>	<b>Audible</b>	<b>Visual</b>
Terminal General Alarm	Intermittent audible Signal	Flashing Red Light
Terminal Prepare for Evacuation Alarm	Continuous audible Signal	Flashing Blue Light

<b>Attachment 11.7 Adverse Weather – Terminal Operating Policy</b>			
<b>Maximum Conditions</b>	<b>Operation</b>	<b>Action</b>	<b>Comments</b>
<b>Wind Speed</b> Wind 18 knots Wave 1.2mHs	<b>Berthing</b>	<b>Berthing operations suspended if above maximum limits</b>	
<b>Wind Speed</b> 28 knots 1hr or 34 knots 30 second gusts Significant Wave Height 1.4mHs 110-190deg 1.7mHs 300-60 and 190-240 deg 2.0mHs 60-110 and 240-300deg	<b>Arm Connection</b>	<b>Use of Loading arm cable guidance system</b>	Cable guidance system will be used for all arm connection operations



<b>Attachment 11.7 Adverse Weather – Terminal Operating Policy</b>			
<b>Maximum Conditions</b>	<b>Operation</b>	<b>Action</b>	<b>Comments</b>
<p><b>Wind Speed</b> 28 knots 1hr or 34 knots 30 second gusts Significant Wave Height 1.4mHs 110-190deg 1.7mHs 300-60 and 190-240 deg 2.0mHs 60-110 and 240-300deg</p> <p><b><u>Monitoring Systems</u></b></p> <p><b>On activation of ESD1 or ESD2 due loading arm movement</b></p> <p><b>On alarm of the Mooring tension monitoring system</b></p>	<p><b>Stop Transfer</b></p> <p><b>Loading arm Disconnection and prepare for unberthing</b></p>	<p><b><u>Communication</u></b></p> <p><b>Monitor Wx forecasts</b></p> <p><b>Monitor prevailing Wx &amp; wind speed ex Terminal.</b></p> <p><b><u>Extra Vigilance</u></b></p> <p><b>Close observation of LNG Carrier position.</b></p> <p><b>Close visual observation of mooring line integrity.</b></p> <p><b>Close monitoring of mooring line tension data.</b></p> <p><b>Close visual observation of LNG Carrier movement due sea/swell.</b></p>	<p>Decision to suspend transfer and prepare for loading arm disconnection can be taken at any time by Terminal in consultation with Master.</p> <p>The decision to suspend transfer and disconnect loading arms shall be made on the basis of all information available concerning:</p> <p>Prevailing Wx. Forecasted Wx. Anticipated rate of increase of wind speed. Condition of mooring system. Position &amp; movement of LNG Carrier Loading Arm monitoring system data Time to de-ice/drain/purge &amp; disconnect loading arms. Time to complete unloading vs risk to LNG Carrier remaining alongside /risk of disconnection /reconnection.</p>

<b>Attachment 11.7 Adverse Weather – Terminal Operating Policy</b>			
<b>Maximum Conditions</b>	<b>Operation</b>	<b>Action</b>	<b>Comments</b>
		<p><b><u>Stop Transfer</u></b></p> <p><b>Drain loading arms</b></p> <p><b>Purge loading arms</b></p> <p><b>Disconnect Loading arms.</b></p> <p><b>Raise shore gangway clear of LNG Carrier handrail following disembarkation of shore staff.</b></p>	<p>Shore gangway to be raised to prevent damage in case of LNG Carrier movement.</p> <p>Fiber Optic Cable or Electric communications cable to remain connected so that LNG Carrier may receive Mooring Line Tension Data.</p>
		<p><b><u>Prepare for Unberthing</u></b></p> <p><b>LNG Carrier made ready to maneuver</b></p> <p><b>Tugs made fast</b></p> <p><b>Unmooring Crews ready (LNG Carrier and Terminal)</b></p>	<p>Decision prepare for unberthing can be taken at any time by Terminal Senior Marine Advisor / OIM in consultation with Master in agree with line handlers and Pilot</p>
<p><b>Wind Speed</b></p> <p>30 knots 1hr or 36 knots 30 second gusts</p> <p><b>Significant Wave Height</b></p> <p>1.7mHs 110-190deg</p> <p>2.0mHs 300-60 and 190-240 deg</p> <p>2.5mHs 60-110 and 240-300deg</p>	<b>Unberthing</b>	<b>Unberthing operations</b>	<p>Decision prepare for unberthing can be taken at any time by Terminal Senior Marine Advisor / OIM in consultation with Master in agree with line handlers and Pilot</p>

<b>Attachment 11.8 Emergency Stop Report</b>
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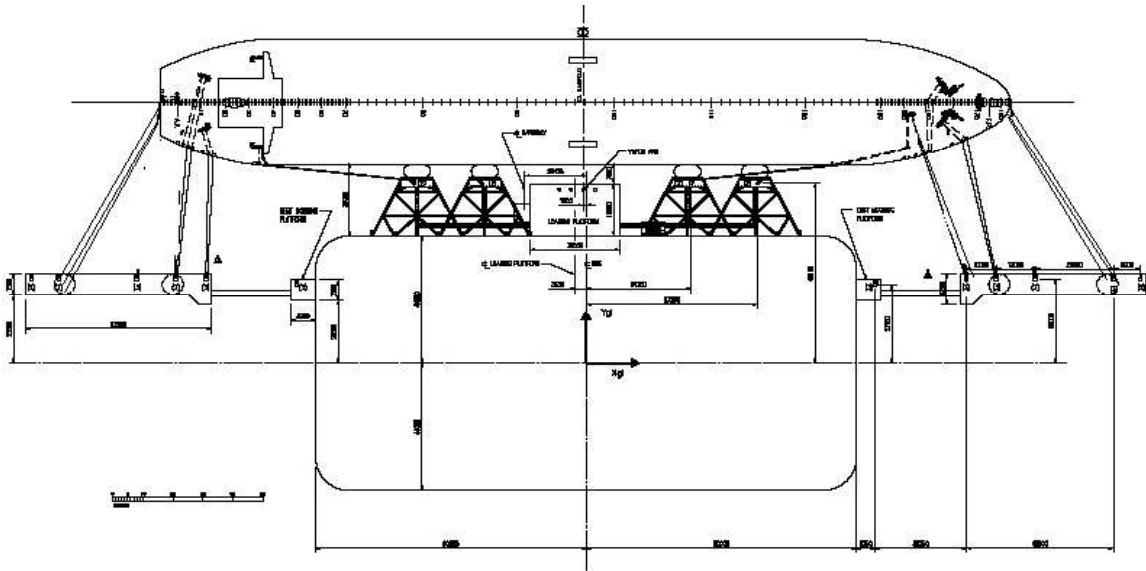
The Cargo Emergency Stop Report form must be completed when a cargo emergency stop is initiated. The form must in all cases be completed by the Terminal Representative and Master and as appropriate by Marine Terminal personnel or Maritime Authority personnel.

LNG Carrier name				
Port of Registry				
Terminal Representative name				
LNG Carrier Master name				
Cargo Emergency Stop initiated	Date		Time	
Cargo Emergency Stop initiated by	LNG Carrier		Terminal	
Person initiating Cargo Emergency Stop	Name		Name	
Position				
Cause (tick)	Fire	<input type="checkbox"/>	LNG Release	<input type="checkbox"/>
	Weather	<input type="checkbox"/>	Injury	<input type="checkbox"/>
	Equipment failure	<input type="checkbox"/>	Other (specify)	<input type="checkbox"/>
Details				
Unmooring required?	Yes <input type="checkbox"/>		No <input type="checkbox"/>	
	Date		Time	
Operations resumed?	Yes <input type="checkbox"/>		No <input type="checkbox"/>	
	Date		Time	
Are appropriate reports completed and processed?	Yes <input type="checkbox"/>		No <input type="checkbox"/>	
	Details			
Are recommendations made to prevent recurrence before operations resume?	Yes <input type="checkbox"/>		No <input type="checkbox"/>	
	Details			
Has Maritime Authority been informed and approved of resumption of operations?	Yes <input type="checkbox"/>			
Recommendations approved	OIM signature			
	Terminal Representative signature			
	Master signature			
Report acknowledgment	Terminal Cargo Emergency Stop initiator signature			
	LNG Carrier Cargo Emergency Stop initiator signature			
Time and Date	/ /			

Attachment 11.9 Example Mooring Layouts

Example Mooring Layouts

1. 138-152km<sup>3</sup> Membranes



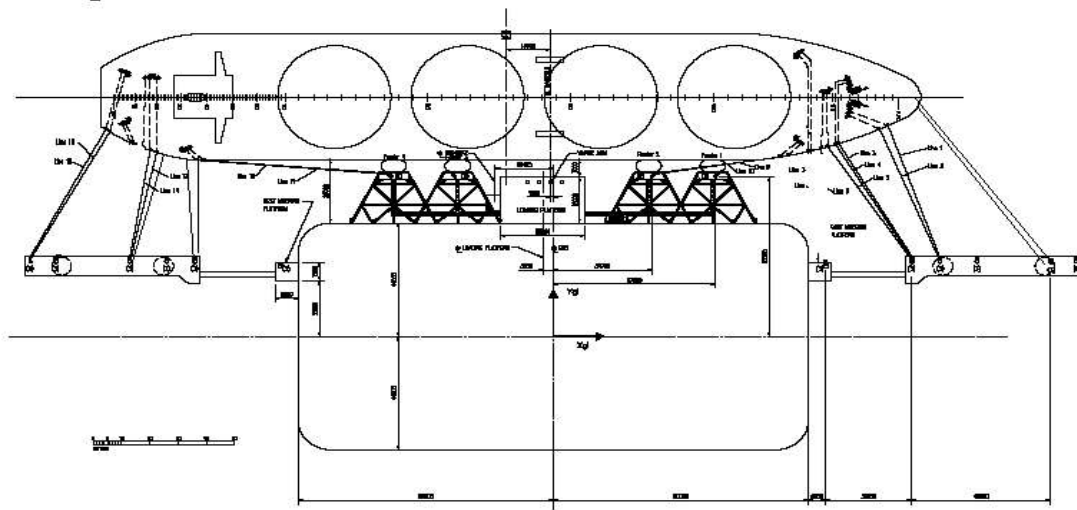
Mooring Lines	HS1	HS2	HS3	HS4	HS5	HS6	HS7	HS8
Hook	1 2	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2	1 2
Head/Stern			18 17					
Breast				16 15 14	13 12			
Spring							11 10	

Mooring Lines	HS9	HS10	HS11	HS12	HS13	HS14	HS15	HS16
Hook	1 2	1 2	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2
Head/Stern								
Breast				7 6 5 4 3				
Spring	9 8					2 1		

Lines	Forward	Aft
Head/Stern	2	2
Breast	5	5
Spring	2	2
<b>Total Lines:</b>	<b>18</b>	

NB: Mooring Hook stations numbered from West to East/Mooring lines from Forward to Aft

2. 145km<sup>3</sup> Spherical



Mooring Lines	HS1		HS2			HS3			HS4			HS5			HS6			HS7		HS8	
Hook	1	2	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	1	2
Head/Stern	19	18																			
Breast			17	16	15	14	13														
Spring																	12	11			

Mooring Lines	HS9		HS10		HS11			HS12			HS13			HS14			HS15			HS16	
Hook	1	2	1	2	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2
Head/Stern											2	1									
Breast					8	7	6	5	4	3											
Spring	10	9																			

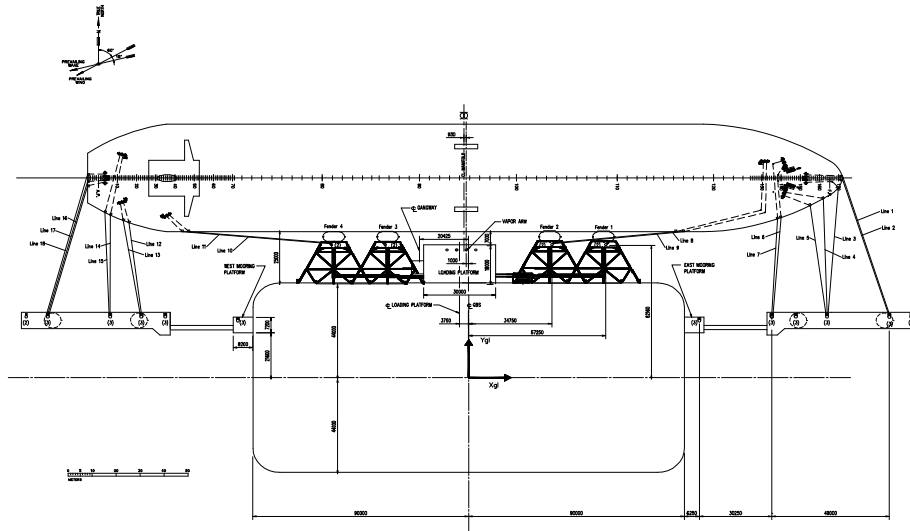
Lines	Forward	Aft
Head/Stern	2	2
Breast	6	5
Spring	2	2
<b>Total Lines:</b>	<b>19</b>	

NB: Mooring Hook stations numbered from West to East/Mooring lines from Forward to Aft

3. Mooring Layout for LNG Carrier with 15m manifold offset

B: Mooring Hook stations numbered from West to East /Mooring lines from Forward to Aft

4. Mooring Layout for Qflex LNG Carrier



Mooring Lines	HS9	HS10	HS11	HS12	HS13	HS14	HS15	HS16
Hook	1 2	1 2	1 2 3	1 2 3	1 2 3	1 2 3	1 2 3	1 2
Head/Stern								
Breast				7 6		5 4 3		
Spring	9 8						2 1	

Lines	Forward	Aft
Head/Stern	2	3
Breast	5	4
Spring	2	2
<b>Total Lines:</b>	<b>18</b>	

NB: Mooring Hook stations numbered from West to East /Mooring lines from Forward to Aft

**Attachment 11.10 ISPS Declaration of Security**

Name of LNG Carrier: .....

Port of Registry: .....

IMO Number: .....

Name of Terminal Facility: .....

This Declaration of Security is valid from ..... until ....., for the purpose of unloading LNG to the ALNG Terminal from the above named LNG Carrier, and is issued under the following security levels:

Security level(s) for LNG Carrier: .....

Security level(s) for ALNG Terminal: .....

The Terminal and the LNG Carrier agree to the following security measures and responsibilities and any other measures to ensure compliance with the requirements of the Part A of the International Code for the security of ships and of port facilities.

<b>The affixing of the initials of the LNG Carrier's Security Officer and the Terminal Facility Security Officer under these columns indicates that the activity will be done, in accordance with relevant approved plan, by</b>		
<b>Activity</b>	<b>ALNG:</b>	<b>LNG carrier:</b>
Ensuring the performance of all security duties		
Monitoring restricted areas to ensure that only authorized personnel have access		
Controlling access to the Terminal		
Controlling access to LNG Carrier		
Monitoring of the Terminal, including berthing areas and areas surrounding the LNG Carrier		
Monitoring of the LNG Carrier, including berthing areas and areas surrounding the LNG Carrier		
Handling of cargo		
Delivery of LNG Carrier stores		
Handling of unaccompanied baggage		
Controlling the embarkation of persons and their effects		

<b>The affixing of the initials of the LNG Carrier's Security Officer and the Terminal Facility Security Officer under these columns indicates that the activity will be done, in accordance with relevant approved plan, by</b>		
<b>Activity</b>	<b>ALNG:</b>	<b>LNG carrier:</b>
Ensuring that security communication is readily available between the LNG Carrier and the Terminal		

The signatories to this agreement certify that security measures and arrangements for both the Terminal and the LNG Carrier during the specified activities meet the provisions of chapter XI-2 and part A of code that will be implemented in accordance with the provisions already stipulated in their approved plans or the specific agreed upon to and set out in the attached annex.

Dated at ..... on the .....

Signed for and on behalf of	
The Terminal:	The LNG carrier:

*(Signature of Terminal Facility Security Officer)*

*(Signature of Master or LNG Carrier Security Officer)*

Name and title of person who signed	
Name:	Name:
Title:	Title

Contact Details <i>(to be completed as appropriate)</i> <i>(indicate the telephone numbers or the radio channels or frequencies to be used)</i>	
---	--

for the Terminal:	for the LNG Carrier:
-------------------	----------------------

Terminal

Master

Terminal Facility Security Officer

LNG Carrier Security Officer

Company

Company

Security Officer



**Attachment 11.11 Emergency Response Actions**

The response to any incident will depend on the nature, location and severity of the event. ALNG and LNG Carrier must be directed by their respective Emergency Response Plans  
*The following contains bulleted immediate actions are to be taken by the principle parties.*

If marine craft (s) are required to approach or go to alongside the LNG Carrier concerned, they must only do so after ALNG has confirmed that unloading operations have been stopped.

**All Incidents**

**LNG Carrier Related Incidents**

**ACTION BY LNG Carrier**

- 1) Initiate emergency cargo transfer shutdown and closure of ESD valves.
- 2) Raise General Alarm and Initiate Emergency Response plan as required.
- 3) Inform ALNG and keep informed, of the nature and location of incident (e.g., Mooring Failure/LNG Carrier out of position/Fire) and action being taken by LNG Carrier and assistance required ALNG and Maritime Authorities.
- 4) Inform on board terminal Representative and Pilot.
- 5) Notify Tugs to be on stand-by and ready to provide assistance as required.
- 6) Prepare for loading arm disconnection and unmooring, including emergency unmooring.

**ACTION BY ALNG**

- 1) Initiate emergency shut-down of cargo transfer.
- 2) Initiate Terminal Emergency Response Plan.
- 3) Establish communications with stand-by tugs.
- 4) Establish communications with on board Terminal Representative.
- 5) Advise Maritime Authorities of the nature of incident and to stand by in case assistance is required.

**ACTION BY TUGS & PILOT**

- 1) Go to immediate stand-by.
- 2) Tugs Initiate water spray or deluge systems as required.
- 3) Await instructions as directed by ALNG or LNG Carrier Master.

## Terminal Related Incidents

### **ACTION BY ALNG**

- 1) Raise General Alarm and initiate Terminal Emergency Response Plan.
- 2) Initiate emergency LNG transfer shut-down and closure of ESD valves.
- 3) Inform the LNG Carrier of the nature of the incident and keep them informed of status.
- 4) Advise Maritime Authorities of the nature of the incident and to stand-by in case assistance is required.
- 5) Request all tugs to go to standby.
- 6) Establish communications with on board Terminal Representative and to standby as directed.

### **ACTION BY LNG Carrier**

Action required by LNG Carrier's berthed alongside the Terminal's jetty will depend on the nature, location and proximity of the incident to the jetty:

- 1) Initiate cargo shutdown.
- 2) Initiate on board emergency response plan.
- 3) Standby for loading arm disconnection and unmooring, including emergency unmooring.
- 4) Maintain radio contact with Terminal.
- 5) Notify Terminal Representative and Pilot.

### **ACTION BY TUGS & PILOT**

- 1) Go to immediate stand-by.
- 2) Tugs Initiate water spray or deluge systems as required.
- 3) Await instructions as directed by Terminal or LNG Carrier Master.

## Specific Incidents

*The following contains specific additional bulleted immediate actions to be taken by the principle parties.*

### **Oil spill from LNG Carrier**

#### **ACTION BY LNG Carrier**

- 1) Isolate source of pollution and take whatever steps necessary to prevent or minimise.
- 2) Mobilize on board pollution response plan.
- 3) Initiate clean up on board.

**ACTION BY ALNG**

- 1) Verify source and type of pollutant.
- 2) Secure all sources of ignition.

**ACTION BY TUGS**

- 1) Stand-by tugs prepare to assist.
- 2) Stand off upwind until nature and type of spill has been established.

**Uncontrolled release of LNG Vapor or Liquid from Ship / Shore**

**ACTION BY LNG Carrier**

- 1) Secure all sources of ignition and impose a total smoking ban.
- 2) Initiate water spray systems or deluge as required.

**ACTION BY ALNG**

- 1) Secure all sources of ignition and impose a total smoking ban.
- 2) Allow automatic Fire and Gas, fire extinguishing and emergency shutdown and depressurization systems to work.
- 3) Operate Jetty fire monitors if applicable.

**ACTION BY TUGS & PILOT**

- 1) Stand-by tugs to activate fire fighting and deluge systems.
- 2) Stand well clear upwind.
- 3) Await instructions from Terminal.
- 4) Secure all ignition sources.
- 5) Impose total smoking ban.

**LNG Carrier Collision within Safety Zone**

**ACTION BY LNG CARRIER(S)**

- 1) Identify other vessel and render assistance as required

**ACTION BY ALNG**

- 1) Initiate call out of Terminal Man-overboard response team.
- 2) Place medical services on standby.

**ACTION BY TUGS**

- 1) Stand-by tugs to respond as directed by Terminal or LNG Carrier Master.

### **Man overboard Incident within the Terminal**

In the event of a man overboard situation within the Terminal Safety Zone, all LNG Carrier movements are to be suspended while search and rescue activities take place.

Extreme caution is required by the search vessels, particularly during hours of darkness, when approaching or entering the search area.

#### **ACTION BY LNG CARRIER**

- 1) Throw person in the water a life buoy or floating aid.
- 2) Raise the alarm by sounding three long blasts on the LNG Carrier's whistle.
- 3) Inform Terminal Central Control Room who will stop the unloading if the person in the water is within 100m of the Terminal and advice circumstances.
- 4) Place lookout and constantly monitor position of person in the water.
- 5) Request Terminal Central Control Room to mobilize rescue from the Maritime Authorities.
- 6) Direct responding vessels to the person in water.

#### **ACTION BY ALNG**

- 1) Stop unloading if requested or if person in water is within 100m of the Terminal.
- 2) Inform Maritime Authorities.
- 3) Initiate call out of Terminal Man-overboard response team.
- 4) Place medical services on standby.

#### **ACTION BY TUGS**

- 1) Stand-by tugs to respond as directed by Terminal or LNG Carrier Master.
- 2) Remaining tugs to be mobilized, if required.

### **LNGC Out of Position**

#### **ACTION BY LNG Carrier**

- 1) Initiate emergency shut-down procedures.
- 2) Clear manifold area in case of ES2 activation.
- 3) Prepare to for tug connection and unmooring, including emergency unmooring.

#### **ACTION BY ALNG**

- 1) Initiate or confirm emergency shut-down.
- 2) Prepare for Loading arm disconnection and raising of gangway.
- 3) Consider Initiating Jetty area fire and deluge systems.
- 4) Prepare for release of LNGC, including emergency release.

#### **ACTION BY TUGS & PILOT**

- 1) Proceed to LNGC and prepare for connecting towlines.
- 2) Await instructions from Pilot or LNGC master for unberthing operations.

**Attachment 11.12 Masters Letter of Acknowledgement**

To the Master of the LNG Carrier

Date:

Dear Sir,

It is a requirement hereof that the LNG Carrier's Master shall sign a copy of this Letter on behalf of the LNG Carrier' Owners. In the event this Letter is not so signed (or otherwise accepted), ALNG shall be under no obligation to perform or provide any services referred to in this Letter or elsewhere in the *Terminal Regulations and Information Booklet*.

In addition, responsibility for the safe conduct of operations on board your LNG Carrier while at our Terminal rests with you as Master. Nevertheless since our personnel, property, and other shipping may also suffer serious damage in the event of an accident involving your LNG Carrier, before operations start, we wish to seek your full cooperation and understanding on the safety requirements set out in the Safety Checklist contained in this manual.

These safety requirements are based on safe practices widely accepted by LNG terminal and Carrier industries. We, therefore, expect you and all under your command to adhere strictly to them throughout your stay at this Terminal. For our part, we will ensure that our personnel do likewise and cooperate fully with you in the mutual interest of a safe and efficient operation.

To assure ourselves of your compliance with these Terms and Conditions and safety requirements, the Terminal Representative together with a responsible LNG Carrier officer will, before the start of operations and thereafter from time to time, carry out a routine inspection of cargo decks and accommodation spaces.

If we observe any infringement on board your LNG Carrier of any of these safety requirements, we shall immediately bring this to the attention of you or your deputy for corrective action. If such action is not taken in a reasonable time, we shall adopt measures that we consider to be the most appropriate for dealing with the situation, and we shall notify you accordingly.

Should you feel that any immediate threat to the safety of your LNG Carrier arises from any action on our part, or from equipment under our control, you are fully entitled to demand an immediate cessation of operations.

In the event of any failure to comply fully with any of these safety requirements or Terminal regulations by any LNG Carrier, we reserve the right to stop all operations and to order the LNG Carrier off the mooring for appropriate action to be taken by the owners or charterers.

Please sign to indicate:

Your receipt of this letter and to confirm that:

*You have a copy of the Terminal Regulations and Information Manual, associated appendices, and Terms and Conditions of Use, and that*

"I HAVE READ, UNDERSTOOD, THE REQUIREMENTS AND ACCEPT THE TERMS AND CONDITIONS OF USE AS SET OUT IN THE TERMINAL REGULATIONS AND INFORMATION MANUAL, AND ON BEHALF OF THE LNG CARRIER OWNER or CHARTERER AGREE TO BE BOUND BY THEM."

Signed for and on behalf of Terminale GNL Adriatico S.r.L.

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Signed for and on behalf of Master of the LNG Carrier:

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I, hereby, unconditionally approves, pursuant to and for the purposes of, articles 1341 and 1342 of the Italian Civil Code, the following clauses of the Terminal regulation: *Article 2.2 Restricted areas and Safety Zones ; Article 2.4 Environmental Conditions ; Article 2.5 LNG Carrier Domestic Matters ; Article 2.6 Terminal Representative ; Article 3.3. Navigation, Pilotage and Berthing ; Article 3.4 Status of LNG Carrier Equipment ; Article 4 Mooring and Unmooring ; Article 6 Access & Security ; Article 7 Safety ; Article 8 State of readiness ; Article 9 Pollution avoidance ; Article 10.0 Cargo Operations ; Appendix 11.1 Conditions of Use (acceptance of LNG carrier ; Master's responsibility ; Agency ; Marine Terminal Closure ; Removal of Wrecks ; provision of services ;Liabilities and indemnities ; Limitation of liability ; Pollution ; Governing Law and Jurisdiction ; Changes to terminal regulation) ; Attachment 11.11 Emergency Response Actions.*

Signed for and on behalf of Master of the LNG Carrier:

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