TÜRK LOYDU

GUIDELINES for LAID-UP VESSELS

2014

This latest edition incorporates all rule changes. The latest revisions are shown with a vertical line. The section title is framed if the section is revised completely. Changes after the publication of the rule are written in red colour.

"General Terms and Conditions" of the respective latest edition will be applicable (see Rules for Classification and Surveys).

If there is a difference between the rules in English and in Turkish, the rule in English is to be considered as valid. This publication is available in print and electronic pdf version. Once downloaded, this document will become UNCONTROLLED. Please check the website below for the valid version.

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PURPOSE

The aim of this document is to assist owners in the preparation of their ships for a period of lay up and to provide guidance for maintaining the ships in a safe and cost effective condition.

In particular this guideline offers advices on the following point:

- Maintenance of Class;
- Safety of the ship;
- Maintenance of machinery in serviceable condition.

1. GENERAL

If the vessel is laid-up in compliance with the recommendations given in Items 8 and 9, **TL** may upon a successful verification, issue a Lay-up Declaration and Lay-up Preservation Declaration respectively stating compliance with said requirements. If the vessel is laid-up in compliance with the additional requirements given in Item 11 and 12, a Declaration for Clean Lay-up may be issued.

Practical procedures for re-commissioning the vessel are given in Item 10.

It should be noted that the guidance herein are not classification requirements. The recommendations given are of a general character. Maritime, national or local authorities and insurance companies may have individual requirements not covered by this document.

The specific requirements of equipment manufacturers may take precedence over relevant requirements of this guidance.

2. LAY-UP SERVICES

TL's services on lay-up are available below:

— Lay-up Declaration as requested by the various parties involved such as insurance and port authorities.

— Periodic inspection according to Lay-up Declaration.

— Supervision during re-commissioning.

3. DEFINITIONS

3.1 Laid Up Ship: Ships for some reasons (especially due to financial concerns) removed from service and moored or berthed at a safe anchorage for a period of time are called laid up ships.

When vessels become idle, further operation is usually evaluated on a cost/benefit basis considering different technical and economic conditions. Key considerations for the choice of the lay-up condition are:

— estimated time in lay-up condition

— operational cost savings

— re-commissioning time and cost

— next intended destination after re-commissioning e.g. normal trade, repair yard or scrap yard

— age of vessel and recycling value.

A summary of relevant lay-up considerations

	HOT LAY-UP (up to 12 months)	**COLD LAY-UP (more than 1 year)**
Re-commissioning time	1 week (approx.)	3 weeks -2 months (approx.) (depending on the adopted maintenance and machinery preservation)
Suitable location	close to the potential cargo trade routes/ protected site	remote site (so access to the ship is to be limited)
Machinery	In operation or in stand-by	Shutting down
Class	Lay-up status notification to the Society. Lay-up maintenance program. Laying-up survey. Annual lay-up condition survey. Re-commissioning survey. (Extent of surveys based on the lay-up maintenance program)	
Flag State	Lay-up status notification	
Manning	May be reduced below the Safe Manning Certificate level	Watch personnel only
Fire Safety	As in operation, may be limited to E/R and high risk areas	As in operation, may be limited to E/R and high risk areas
Lifesaving appliances	As in operation, may reduce due to reduced manning	Operational for lay-up personnel
Lay-up declaration	Yes	Yes
Preservation declaration	To be considered	To be considered
ISM	Suspended after 3 months. Reactivation audit	Invalid. Interim certificate after the reactivation audit
ISPS	Suspended after 3 months. Reactivation audit	Invalid. Interim certificate after reactivation audit
Insurance	Lay-up return may be applied. Risk under P&I cover may be reduced (no cargo, no fuel, reduced crew)	

If the vessel is laid-up in compliance with the safety and preservation recommendations given in this Guideline (Items 8 and 9 relatively), Türk Loydu may upon a successful verification, issue a **Lay-up Declaration** and **Lay-up Preservation Declaration** respectively stating compliance with said requirements. If the vessel is laid-up in compliance with the requirements given in Item 11 and 12, a Declaration for Clean Lay-up may be issued.

3.2 Hot lay-up:

3.2.1 Hot lay-up for up to 12 months

This lay-up condition is suitable for 1 week re-activation time.

In this condition the vessel complies with classification and flag state requirements.

The crew may be reduced to the level as required by the Safe Manning Certificate.

Machinery will be kept in operation but economies may be made.

The ship will be located in an area close to the potential cargo trade routes.

Manning may be reduced below the level as required by the Safe Manning Certificate in agreement with the flag state, the classification society, local port authorities and insurance companies.

3.3 Cold lay-up: In cold lay-up condition the machinery is taken out of service and the vessel is kept "electrically dead" with the exception of emergency power.

This lay-up condition is suitable for up to 5 years out of service and it will require 3 weeks reactivation time or more depending on the preservation and maintenance level of machinery during lay-up. The level of preservation is mainly decided based on the age and value of the vessel and the most likely re-commissioning scenario. Examples of scenarios are:

— vessel returns to normal trade

— vessel sails to repair yard

— vessel sails to scrap yard in ballast.

Minimum manning covering fire, leakage, moorings and security watches should be kept. The lay-up site is usually in a remote site and access is therefore limited. Power will be kept to minimum level to ensure emergency equipment and operation of windlass and mooring winch are operational. Usually, humidity is the challenge of cold lay-ups; hence, proper air dehumidifying is critical. If the vessel is intended to return to normal trade or repair yard, dry preservation is recommended and all preservation actions should be carefully documented, as the scope of re-commissioning required by the classification society will be dependent on the preservation.

3.4 Ships moored in groups: In general ships are moored singly but when several ships are moored together, mooring arrangements should be in line with the following requirements:

- ships are to be moored bow to stern,
- ships are to be of approximately the same size,
- the number of ships moored together is, in principle, not to exceed six,
- breast-lines are to be of similar elasticity,
- fenders are to be provided.

3.5 Lay-up for over five years: Re-commissioning after long term lay-up periods over five years may be unpredictable and could take 3 month or more depending on maintenance and preservation applied. Extensive re-commissioning work should be anticipated.

3.6 Re-commissioning: Re-commissioning is putting of a laid-up vessel into service after surveys which will depend upon several factors such as time in lay-up, maintenance and preservative measures taken during lay-up, survey status at the time of re-commissioning, the reason for re-commissioning, the type and age of vessel.

4. CLASSIFICATION

Owner should notify **TL** when the vessel is laid up or otherwise taken out of service for a period of more than 3 months. A written notification by e-mail will be sufficient for **TL** to change the status of the vessel to "Laid Up".

Following satisfactory survey and transmission of the survey statement, the class status of a vessel will be confirmed as “Laid-up”. A new Class Certificate will be issued with **LAID UP SHIP** notation assigned; therefore, surveyors are kindly requested not to make an entry onto the Class Certificate as “Laid-up” unless specifically advised to do so.

Vessels assigned as laid-up are not permitted to make routine positional changes other than those required for safety and emergency reasons or on a port authority’s request.

A “laying-up survey” will be performed at the beginning of lay-up period and subsequently “annual lay-up condition surveys” will be performed in lieu of the normal annual surveys which are no longer required to be carried out as long as the ship remains laid-up.

The other periodical surveys which become overdue during the lay-up period may be postponed until the recommissioning of the ship.

Where the ship has an approved lay-up maintenance program and its period of class expires, the period of class is extended until it is re-commissioned, subject to the satisfactory completion of the annual lay-up condition surveys.

The periodical surveys carried out during the lay-up period may be credited, either wholly or in part, at the discretion of the Society, having particular regard to their extent and dates. These surveys will be taken into account for the determination of the extent of surveys required for the re-commissioning of the ship and/or the expiry dates of the next periodical surveys of the same type.

If Conditions of Class or Deficiencies are issued, the due dates for compliance are dependent upon whether the items influence safety or technical aspects of the lay-up. If a Condition of Class or Deficiency does not affect the lay-up then the due date can be postponed to the end of the lay-up period. This also applies to the re-survey of existing Conditions of Class and Deficiencies. Deficiencies that influence the lay-up may affect the laid-up status of the vessel.

4.1 Lay Up Surveys

4.1.1 General

At the beginning of the lay-up period a laying-up survey should be carried out with the purpose to verify that the safety conditions, preservation measures, lay-up site and mooring arrangements are in accordance with the program agreed by the Society.

An annual lay-up condition survey should be performed in lieu of the normal annual class surveys. The purpose of this survey is to ascertain that the lay-up maintenance program implemented is continuously complied with. Surveys should be carried out with an emphasis on safety, emergency contingencies and mooring arrangements, followed by the assessment of the preservation and maintenance procedures. The scope of the lay-up should be consistent with the intended period of inactivity.

It is to be checked that the arrangements made for the lay-up are unchanged and that the maintenance work and tests are carried out in accordance with the maintenance manual and recorded in the lay-up logbook.

Upon satisfactory completion of the survey, the Certificate of Classification is endorsed.

4.1.2 Lay Up Plan

The lay-up plan should be available on-board the vessel. If it is found during the survey that the status quo on-board does not adequately reflect the approved plan, this may affect the decision as to whether **TL** will assign the

laid-up status. Any considerable deviation from the approved plan should be communicated to **TL** Head Office.

To assist our clients, Lay-up Plan Questionnaire (Appendix 2 of this Guideline) and the Example of Lay-up Plan (Appendix 1 of this Guideline) will be delivered as an attachment to the standard correspondence. The questionnaire should be used as a content check list for the plan. The owner may create the Lay-up Plan based on the example; however, the size of the vessel and specific conditions of a single case should be taken into account.

The owner shall create the Lay-up Plan based on the example given by Appendix 1 of this Guideline. The size of the vessel and specific conditions of a single case should be taken into consideration.

The Lay Up Plan should include the following information:

- planned duration of lay-up period
- location & prevailing climatic conditions
- berth or anchorage & associated mooring and/or anchoring arrangements
- manning levels
- emergency contingencies on-board and/or ashore
- preservation methods
- maintenance schedules
- any requirements of the Flag State, Port State, insurance company etc.

Outstanding Deficiencies or Conditions of Class etc will also be taken into consideration.

The completed questionnaire and plan are to be submitted to Marine Industry Division who will assess the lay-up provisions and liaise with the owner regarding any possible shortcomings and further recommendations.

Once accepted a standard letter will be sent to the owner confirming acceptance and with instructions to order the lay-up survey. The lay-up plan must be accepted by Türk Loydu Head Office before any survey takes place on-board.

4.1.3 Provisions for surveys to be applied for vessels laid up with TL class

4.1.3.1 Annual survey of laid-up vessel will be carried out at required intervals. Vessels manned during lay-up shall comply with class requirements regarding fire safety. The requirements may be limited to engine room areas and any high risk area in use, assuming vessels are laid up in ballast condition and that the cargo area is clean and gas free.

4.1.3.2 Prolonged survey intervals may be applied to vessels being laid-up directly after completion of construction.

4.1.3.3 Maintenance and preservation during the lay-up period is not a class requirement, but will affect the scope of the re-commissioning survey. If during the lay-up period the vessel has been preserved and maintained according to a program accepted by Türk Loydu, the scope of the re-commissioning survey will be specially considered. For maintenance and preservation see Item 9.

4.1.3.4 There is no time limit for how long a vessel can be laid-up provided the required surveys as above are carried out.

4.1.4 General guidelines for lay-up surveys

4.1.4.1 Administration requirements

Vessels should conform to any Flag State, Port State and/or insurance company requirements that have been issued. Flag States may issue specific instructions for vessels, or there may be general circulars issued for laid-up ships i.e. Turkish Flag State circulars.

4.1.4.2 Berth or anchorage

This should be a safe berth or anchorage accepted by local authorities i.e. sheltered from open seas, swells, currents, strong winds; clear of busy traffic lanes; having sufficient under keel clearance for low tides and swells; consideration of underwater obstructions i.e. wrecks, cables. The relevant up-to-date nautical charts should be on-board

4.1.4.3 Mooring and/or anchoring arrangements

For vessels to be securely anchored or moored, the following should be considered:

- The final lying position of the vessel should be favourable in relation to known weather conditions i.e. strong winds and swell directions, as well as strong tidal surges.
- For vessels not moored to a berth, a GPS position should be fixed and regularly monitored
- Moorings should capable of withstanding the most adverse weather conditions i.e. winds, swells
- High-sided vessels i.e. ro-ros, cruise ships, car carriers should take into account increased windage
- For longer lay-up periods, the use of wire moorings over synthetic ropes should be considered
- As far as possible, moorings should be kept taut, evenly tensioned and parallel throughout
- Forward and stern mooring arrangements should be deployed so that vessels are unable to swing in winds and tides etc. In most cases, single anchor arrangements are deemed unfavourable
- Capacities and/or limitations of specific types of anchors and mooring equipment should be taken into consideration. Winches and windlass brakes should be verified prior to layup
- Provisions should be made for steam driven winches should be operated on compressed air
- Vessels should be sufficiently ballasted to minimise windage, rolling etc
- Diver may be required to verify the lying position of the anchors
- Adequate anchor chain should be available in relation to the depth of the anchorage; a minimum anchor chain length of approximately seven times water depth of the anchorage should be deployed
- Anchor positions should be marked with buoys
- Precautions against anchor chain and mooring line chaffing should be undertaken
- Where one or more vessels are moored together in groups at anchor or between buoys:
    - vessels should be of similar dimensions and positioned alongside each other bow to stern
    - the groups should be kept in even numbers and limited in size
    - vessels should have similar anchor holding capacities

- breast lines should be parallel and have equal strain and stretch properties
- adequate fenders should be used between the contact areas of the vessels

- Draft reference marks should be clearly painted forward and aft
- Forward and aft emergency towing lines should be rigged and readily deployable
- Where required, vessels navigation shapes should be available and the navigation lights and fog horn should be fully functional
- There should be safe gangway access which is adequately lit
- Winches and windlasses should periodically operated and be readily available for emergency purposes

4.1.4.4 Manning levels

Vessels should be in compliance with the minimum manning levels stipulated by either the Flag State or local authorities. Conditions for unmanned vessels should be closely observed.

4.1.4.5 Emergency preparedness & procedures

- Vessels should have sufficient contingencies in place to deal with fire, water ingression, adverse weather, pollution and security breaches around the clock and within reasonable response times
- Each vessel should document safety and emergency procedures relating to the laid-up condition
- The extent and availability of local emergency resources should also be taken into consideration i.e. emergency towage

4.1.4.6 Safety systems, lifesaving appliances and emergency equipment

Vessels safety systems, lifesaving appliances and emergency equipment should be kept operational to the degree required for the safety of the remaining crew and in readiness for instant use. Items such as:

- emergency alarms
- GMDSS / distress equipment: epirbs, flares etc
- fire detection and bilge alarm monitoring systems
- fire-fighting equipment i.e. hoses, nozzles, international shore connection, fire-fighting suits & breathing apparatus, CO2 systems & release alarms, fire-extinguishers & spare charges
- emergency fire pumps, hi-fog pumps, sprinkler pumps
- floatation devices: liferaft, life jackets, immersion suits etc
- first aid equipment
- bilge / emergency bilge pumping systems
- emergency batteries

For unmanned vessels, fire and bilge alarms should be relayed (i.e. external sirens, radio paging systems) to the respective manned locations.

For dead-ships, alternative sources of power or monitoring for fire detection and bilge level systems should be provided.

If requested by the local or national administration, periodic inspections and maintenance have to be continued and on the request of the owners, may be inspected by Türk Loydu.

4.1.4.7 Electrical power

Vessels should be supplied with sufficient electrical power to continuously supply essential alarms, systems and machinery such as: lighting; fire detection; bilge level monitoring; charging units for emergency batteries; navigation lights; fog horn; radios; preservation equipment such as heaters & dehumidification plants; domestic services for crew living onboard.

There should also be sufficient power for the sporadic operation of:

- emergency fire pump; sprinkler / hi-fog pumps; mooring winches and windlasses; any machinery, pumps or systems that are to be run for routine maintenance i.e. steering gear, hydraulic systems

For vessels that have mobile generating unit on board, the diesel oil service tank specifications and location should also be assessed with regard to fire and pollution risks.

In the case of power supplies and/or feeds to other vessels, a separate junction box should be provided. This branch should have fitted fuses and an on-load switch, or a circuit breaker with overcurrent and short circuit protection. Where voltages of 50V and/or currents of more than 16A are transmitted, it should be ensured that a connection can only be made from a dead condition. Furthermore, vessel hulls should be conductively connected and connecting cable suspensions should be tension relieved.

4.1.4.8 Security

On-board access and movement should be restricted as safely and as far as practical. The security procedures should also be documented.

4.1.4.9 Communication

Satisfactory means of communication should be established between onboard personnel or port engineers, port authorities, emergency response services and technical managers etc. Emergency radio channels and telephone numbers should be defined and displayed in pertinent locations.

4.1.4.10 Weather monitoring

Local daily weather reports and storm warnings should be obtained from reliable sources.

Where there is a danger of icing, suitable steps shall be taken to forestall possible damage due to the freezing of drinking or ballast water in tanks or pipelines, or damage due to the pressure of ice against the shell plating, rudder and propeller.

4.1.4.11 Logging

All processes and preservation methods should be logged so that the data can be used as a checklist for re-activation.

4.1.4.12 Preservation

For preservation of shipboard equipment, hull and hull outfitting, requirements of Item 9 Preservation apply.

4.2 Re-commissioning Surveys

4.2.1 General

Re-commissioning survey of laid-up vessel will depend upon several factors such as time in lay-up, maintenance and preservative measures taken during lay-up, survey status at the time of re-commissioning, the reason for re-commissioning, the type and age of vessel.

4.2.1.1 Vessels laid-up for up to 12 months

Such vessels are considered as having traded continuously by Türk Loydu, i.e. being preserved like under normal operating conditions. In such case only overdue surveys shall be carried out during recommissioning.

For vessels not preserved, a survey extent of which shall be discussed and agreed with **TL** may be required.

4.2.1.2 Vessels laid-up for more than 12 months

Ships which have been out of commission, e.g. laid up, for a period of at least 12 months, shall be surveyed and tested before re-entering service. The extent of the surveys and tests will be considered in each case depending upon:

- the time the ship has been out of commission
- the maintenance and preservative measures taken during lay-up
- the extent of surveys carried out during the time out of commission.

As a minimum, a sea trial for function testing of the machinery installation shall be carried out.

No maintenance or preservation is required, but if carried out, the scope of the re-commissioning survey will be specially considered.

The scope of the re-commissioning survey may be increased if deemed necessary by the attending surveyor (e.g. in case of longer lay-up periods with no preservation or maintenance).

4.2.2 Provisions for Recommissioning Surveys

- In general, the survey is to confirm that all lay-up measures have been systematically reversed.

  This should be controlled in accordance with the vessel's lay-up logs see 4.1.4.11.

- Survey Statements, including the Additional and the associated Survey Programs from the entire lay-up period are to be perused to ascertain if there are any non-surveyed items outstanding from the lay-up period. Any notes or comments may also require following up.

- In cases whereby a vessel has been laid-up for only a short period, the scope maybe reduced but only as instructed by **TL** Head Office.

- Any postponed class & statutory surveys are to be completed prior to the vessel returning into service. Particular attention should be given to a vessel being re-activated earlier than the lay-up period stated in the system, meaning that some surveys have been initially extended to the end of lay-up period but are actually due upon recommissioning.

- It should also be ascertained which Conditions of Class, Deficiencies and Memorandums require rectification upon recommissioning. It may be that the deficiency was issued under lay-up circumstances but requires rectification prior to entering back into service.

  Likewise, a deficiency that was extended or issued during the lay-up may not require immediate rectification, but the due date may have to be reduced.

- Special surveys may be due as part of the recommissioning process and a Certificate of Conveyance may be required in order for a vessel to proceed to dry-dock. In this case the Certificate of Conveyance may form part of the recomissioning survey and this should be noted in the survey statements.

- During a recommissioning survey, particular attention should be given to essential machinery and equipment that has not been in operation, with an emphasis on the function of safety devices and performance tests of these components.

- Dependent upon the period of the lay-up and the complexity and quality in which it was performed, it may be necessary to witness a sea-trial of a vessel. Each and every reactivation is handled on a case-by-case basis and **TL** Head Office will either instruct or recommend the surveyor regarding the performance of a sea-trial. The requirement for a trial will also be at the discretion of the attending surveyor.

- Various survey possibilities exist from random checks to thorough performance tests, further dependent upon the period of the lay-up and the complexity and quality in which it was performed. Many inquiries can be raised, a few examples such as:

  - Has the owner followed the manufacturer's guidelines for recommissioning, or even employed the services of a manufacturer's technician to assist in the reactivation.

  - Has the oil in a particular system been tested prior to reactivation, is it fit for further use.

  - Has relevant maintenance been performed during the lay-up or prior to recomissioning i.e. rubber seals replaced that may of hardened over time (time based maintenance in place of running hours).

  - Has the function of certain valves been proved i.e. the free movement of an automatic thermostatic valve in an engine's cooling water system.

  - Has the bilge system in the cargo spaces been tested i.e. suction from well in a cargo hold.

4.2.3 Extent of Recommissioning Surveys

The scope of the re-commissioning survey is to include:

- a general examination of the hull, deck fittings, safety systems, machinery installations (including boilers whose survey is not due) and steering gear
- all periodical surveys due at the date of recommissioning or which became overdue during the lay-up period
- dealing with the recommendations due at the date of re-commissioning or which became due during the lay-up period.

Shipowners should make the necessary arrangements to remove the temporary lay-up installations provided for preservation measures and the protective materials and coatings (oil, grease, inhibitors, desiccants), before the survey is commenced.

Shipowners, under their responsibility, should also verify that the ship parts that are not covered by class are reactivated in satisfactory operational condition.

For the hull the following should be carried out:

- examination of shell plating above the waterline,
- deck plating, hatch covers and coatings,
- examination of load line items,
- overall survey of all cargo tanks/holds,
- overall survey of representative ballast tanks when the lay-up period does not exceed two years,
- overall survey of all ballast tanks when the lay-up period is two years and over,
- function tests of bilge and ballast systems.

For the deck fittings the following should be carried out:

- where possible, examination of deck piping under working pressure,
- function tests of class items,
- checking inert gas installation under working condition after inspection of water seal and function test of deck non-return valve and pressure/vacuum valves.

For machinery installations the following should be checked:

- the analysis of lubricating oil of main engines, auxiliary engines, reduction gears, main thrust bearings and stern tube,
- the general condition of crankcase, crankshaft, piston rods and connecting rods of diesel engines
- the crankshaft deflections of diesel engines. In addition when engines have been laid-up for more than two years, one piston is to be disconnected and one liner is to be removed for examination. Dismantling is to be extended if deemed necessary,
- the condition of blades of turbines through the inspection doors,
- the condition of the water side of condensers and heat exchangers,
- the condition of expansion arrangements,
- the condition of reduction gears through the inspection doors,
- the condition after overhauling of pressure relief devices,
- the test of bilge level alarms, when fitted.

The main and emergency electrical installations are to be tested. The parallel shedding of main generators and main switchboard safety devices are to be checked. A megger test of the electrical installation is to be performed.

For the fire prevention, detection and fire-fighting systems, the following should be examined and/or tested:

- fire detectors and alarms,
- low pressure CO_2 fire-extinguishing systems, if fitted.

The automated installation should be checked for proper operation.

When classed, the installations for refrigerated cargo should be examined under working conditions. Where the lay-up period exceeds two years, representative components of the installation should be dismantled.

For cargo installations on liquefied gas carriers, the following should be carried out:

- inspection of the primary barrier in tanks,
- for membrane tanks, a global gas test of tanks whose results are to be compared with those obtained at ship’s delivery,
- testing of gas piping at working pressure using inert gas.

A Surveyor is to attend the first cooling down and loading of the ship.

For other specific classed installations, the Owners should submit a survey program to the **TL**.

On completion of the above surveys and tests, sea trials should be performed in the presence of a Surveyor.

The sea trials should include:

- verification of the satisfactory performance of the deck installations, main propulsion system and essential auxiliaries, including a test of the safety devices,
- an anchoring test,
- complete tests of steering gear,
- full head and full astern tests,
- tests of automated machinery systems, where applicable

Upon satisfactory completion of the surveys, an endorsement to confirm the carrying out of all relevant surveys and the re-commissioning of the ship is entered on the Certificate of Classification.

4.2.4 In-water surveys

If an in-water survey / bottom survey is due upon recomissioning, the following should be taken into consideration.

Depending upon the period and/or the location of the lay-up, marine growth on submerged parts of the hull may create a situation whereby the hull, rudder or propeller cannot be sufficiently viewed to credit the bottom survey. In such cases, underwater cleaning of the hull may be necessary in order to complete a satisfactory bottom survey. The prospect of hull fouling and its influence on the survey should be discussed with the owner / manager as early as possible prior to an in-water survey taking place.

In the case of poor water visibility, the survey may have to take place in a suitable geographical location. In all cases, the decision is at the discretion of the attending surveyor.

5. ISM and ISPS

5.1 ISM

If the vessel has been laid up more than 6 months the SMC becomes invalid. An interim verification audit will be required upon re-commissioning, with the vessel being treated as a new vessel to the company. Upon successful completion of the verification, an interim SMC will be issued.

If the lay-up period is less than 6 months, but periodical audit window has expired during lay-up, the certificate will be considered invalid. The vessel will then be required to undergo interim verification upon recommissioning.

If the vessel has been laid up less than 6 months and the periodical audit window has not expired the certificate will still be valid.

If the Flag State Administration has issued any instructions in this respect, they will override these requirements.

5.2 ISPS

If the vessel has been laid up more than 6 months the ISSC becomes invalid. An interim verification audit will be required upon re-commissioning, with the vessel being treated as a new vessel to the company. Re-approval of SSP may be required. Upon successful completion of the verification, an interim ISSC will be issued.

If the lay-up period is less than 6 months, but periodical audit window has expired during lay-up, the certificate will be considered invalid. The vessel will then be required to undergo interim verification upon recommissioning.

If the vessel has been laid up less than 6 months and the periodical audit window has not expired the certificate will still be valid.

If the Flag State Administration has issued any instructions in this respect, they will override these requirements.

6. INSURANCE

Relevant hull and machinery underwriter and P&I club should be consulted for guidance prior to removal of the vessel from service.

P&I club rules for protection and indemnity cover will vary, but the owner may, upon negotiation, apply for lay-up return for certain idling period provided the vessel is declared safely laid up. I.e. the vessel has been taken out of commercial operation and has been subjected to the recommendation of this Guideline or its equivalent.

If the vessel is laid-up for an extended period of time, most P&I clubs will reserve the right to inspect the condition of the vessel on re-commissioning.

Most port authorities will require a letter from local P&I club representatives to confirm that the laid-up vessel is covered for port risks, e.g. oil pollution, wreck removal, salvage costs, etc.

7. FLAG STATE AND PORT AUTHORITIES

7.1 General

Owner should notify flag state when the vessel is laid up or otherwise taken out of service for a prolonged period of unemployment. Most flag states require an official notification with date and location of lay-up, so that the status of lay-up can be registered.

Flag state requirements for lay-up vary from notification only to more detailed documentation of the lay-up condition.

It is therefore important to consult the relevant flag state and check relevant flag requirements prior to entering lay-up.

As an example for ships entitled to fly Turkish Flag, the Instruction "Servis Dışı Bekleme İşlemlerinde Takip Edilecek Usul Ve Esaslara İlişkin Yönerge" shall be taken into account.

7.2 Safe manning

Safe Manning Certificate sets the criteria for safe manning at all times for vessels in operations. For minimum manning requirements for laid up vessels, relevant flag state or port state has to be consulted and agreed with.

For hot lay-up, flag states may authorize the vessel to have reduced crews depending on the requirements of the local port authorities. Since requirements vary from port to port, it is recommended to forward a lay-up plan for evaluation and authorisation including:

- lay-up procedures
- proposed manning level
- emergency response (fire, collisions, pollution, hurricanes, floods, etc.)
- navigation watches (if at anchor)
- security plan

- completing class surveys and audits
- procedures for re-commissioning.

Safe manning is a flag state responsibility, but as a general guideline the following may be considered sufficient for hot lay-up where the vessel may be required to get underway in an emergency, or when required by port authorities:

- 1 master, 1 deck officer, 3 deck crew
- 1 chief engineer, 2 engineering crew
- sufficient crew to maintain all safety functions, i.e. explosion prevention, etc.

For cold lay-ups the vessel should have at least fire, leakage, mooring and security watch. It is recommended that the owner seeks guidance from the vessel's flag state, insurer and local port authorities to agree the final manning levels onboard during cold lay-up.

8. SAFETY

8.1 Lay-up Declaration

Upon request Türk Loydu may issue a Lay-up Declaration as may be required by third parties involved in a lay-up situation such as underwriters, owners or charterers, and maritime, national or local authorities. The declaration will have no bearing on a vessel's class with **TL** or any other classification society. See Appendix 3, Request for Lay-up Declaration.

A Lay-up Declaration may be issued based on the following overall requirements:

- the vessel is safely moored with periodical mooring watch, and emergency operation of mooring winches available at short notice
- navigation lights, fire and bilge alarms are in operation
- fire extinguishing and bilge systems are operable on short notice by competent personnel
- safety arrangements for personnel on board, if any, are in place.

Recommendations on how to achieve this are given in the following. It is recognized that there may be alternative ways to achieve equivalent safety of a laid-up vessel, but in order to qualify for a Lay-up Declaration from **TL**, the above overall requirements shall be met and the following recommendations followed or met by actions resulting in an equivalent safety level.

8.1.1 Initial survey

If the vessel meets the requirements laid down in this Guideline, a Lay-up Declaration valid for a period of maximum 6 months may be issued.

8.1.2 Re-surveys:

Consequent Lay-up Declarations may be issued for a period of maximum 12 months.

8.1.3 Scope of work

The lay-up declaration is based upon an evaluation of:

- seabed characteristics
- environmental conditions including weather and current statistics
- mooring arrangement
- structural strength of moorings and mooring fastening devices
- ballasting and stability
- the planned manning or watch-keeping personnel
- safety aspects
- fire protection, detection and extinguishing
- precautions against flooding
- communication equipment
- navigation lights
- lifesaving equipment
- power availability
- emergency contingency plan
- anti-pollution measures
- security arrangements.

The vessel and the items above will be inspected by **TL** before issuing of initial and subsequent Lay-up Declarations.

8.1.4 Documents to be submitted

The following plans and other documents should be submitted for our evaluation:

- general arrangement plan (if not in **TL** class)
- ballasting and draught for the vessel in the proposed lay-up condition.
- area chart with indication of vessel location
- expected statistical weather conditions
- chart showing depth curves and bottom soil conditions
- proposed position and heading of vessel
- mooring arrangement:
    - number of anchors and length of chain cables to be used
    - proposed mooring pattern
    - chart indicating bollard position, bollard capacity and individual distances between bollards ashore if applicable.

- planned manning and watch-keeping
- emergency contingency plan
- anti pollution measures
- security arrangements and procedures.

8.2 Lay-up site

The lay-up site should be well sheltered from heavy wind, strong current and swell. The site should not be in tropical cyclone areas, unless sufficient tug assistance will be readily available, and there is a well-established weather forecast service for the area.

The seabed characteristics should be such as to provide adequate anchor holding power if anchors shall be used.

A diving report confirming the seabed condition may be required.

The seabed should be free from obstructions, wreckage or other projecting objects. The site should not be exposed to significant amounts of moving ice.

The water depth on the site should give sufficient clearance between seabed and vessel's keel, including the lay-up initial position as well as the area in which the vessel or block of vessels may be moving due to environmental forces.

When shore moorings are used, mooring bollards of sufficient strength should be placed in such positions that proper lead of moorings is obtained. Suitable distance from vessel's stern to shore bollards should be between 50 m and 150 m, varying with size of vessels.

Sufficient shore bollard strength should be available.

Sideways clearance in the laid-up initial position to shore or any seabed obstacles should be at least 60% of the distance between stern and shore bollards. If vessels are laid in block alternate bow to stern, with anchors in opposite directions, sideways clearance should be at least 30% of the anchor cable deployed.

The minimum distance between separately laid-up vessels or block of vessels should be sufficient but not less than 50 m.

The acceptable total number of vessels to be laid-up in one block should be considered. The total tonnage in a block of vessels should be considered against possible restrictions from any national or local authorities, or from underwriters involved.

8.3 Mooring arrangements

The mooring arrangement shall be able to maintain a safe mooring of the vessel, or block of vessels. Vessels in lay-up position should be able to withstand wind loads from wind velocity up to normally 30 m/s, acting 90° and 45° to the vessel's centreline, without getting vertical forces on anchors, or unacceptable loads on shore moorings. In closed harbours, and for vessels berthed quayside, lesser wind loads may be used if based on documented weather statistics.

The effect of current speed and directions should be considered. Normally, current of 2 knots should be used for evaluation.

When the anchors are used, full length of chain cables should be deployed and the length of chain cables deployed should be approximately seven times the depth of the water as a minimum. Chain cables should be laid in a straight line, parallel with the vessel's centreline with the vessel in the initial position. After pre-tension of chain cable, the angle between the water surface and the chain cables should be between approximately 55° and 75°.

The anchor windlass with braking system and anchor chain stopper should be checked.

The number and size of mooring lines should be considered. A mooring line or bundle of moorings should not be stressed to more than 50% of the breaking load. Wire moorings are generally preferred, synthetic fibre ropes may be considered for short lay-up periods. Age, wear and corrosion of mooring lines should be considered for each single line.

When vessels are laid-up berthed to a quay, an adequate number of head/stern lines, breasts and springs should be set. Special care should be taken to minimize loss of restraint capacity due to vertical inclination of mooring lines.

When vessels are laid-up in a block alternate bow to stern, vessels should be of approximately the same size, and of even numbers in the block.

When a vessel is laid-up with bow anchors deployed and stern moorings to shore bollards, all moorings ashore should preferably be concentrated in one bundle. Two bundles may be acceptable, in which maximum possible parallelism between the bundles should be obtained. All moorings should be tensioned in order to obtain even stress.

All moorings should be of same property.

The capacity of the vessel's chocks, bollards and possible winch brakes should be considered.

When vessels are laid-up in a block with shore moorings, the bundles of moorings should be kept parallel to obtain even stress in the mooring lines. Bundles of mooring lines from the outer vessels in a block should be less tensioned than moorings from inner vessels, in order to obtain even loads during sideways movements of the block.

Moorings between vessels in a block should be kept tightened. At least 8 lines consisting of breast and springs should be set between each vessel in a block.

Heavy fendering should be used between each vessel in a block, positioned at different levels, preferably secured with chain cable.

All moorings in use should be well protected against corrosion and chafing.

8.4 Ballasting

The vessel should be ballasted in order to reduce exposure to wind forces, normally 30% to 50% of the loaded draught. The final ballast distribution should be documented.

Consideration should be given to:

- depth of water at the lay-up site
- wind and current forces
- the stability and strength of the vessel

- slack ballast tanks should be avoided.

8.5 Power availability

Dependent upon the lay-up site and possibilities for tug assistance, availability of propulsion machinery may be required. It is, however, generally assumed that in normal lay-up condition there will be no immediate need for propulsive power.

Power for operation of navigation lights, fire and bilge alarms, and fire extinguishing and bilge systems shall be available. This may be arranged by the use of a portable diesel generator set mounted on deck. Emergency power sources to be kept ready for operation and tested regularly.

Adequate power for operation of windlasses and mooring winches should be available. If steam-driven, the anchor windlass and any necessary mooring winches should be fitted with emergency air connections, and sufficient air capacity should be available for their operation. If electric, an emergency source of power should be available for their operation.

8.6 Safety precautions

8.6.1 Manning

Qualified personnel shall be available in order to maintain full-time fire, leakage, moorings and security watch of the vessel and shall be capable of operating the related equipment.

8.6.2 Protection against explosions and fire

Fire sources should be removed or minimized as far as practical. All decks, accommodation and machinery spaces should be cleaned and all flammable or combustible materials should be removed or properly stored.

Bilges should be kept dry and clean.

All cargo tanks, pump rooms, cofferdams and pipelines should be clean and gas concentration of hydro-carbons shall not exceed 0.40 of the lower flammable limit (LFL).

A valid Gas-free Certificate, if required by maritime, local or national regulation should be posted on board.

Inerted tanks may be accepted. O_2-content in inerted tanks should be below 5% by volume when going into Lay-up. During lay-up, O_2-content should be kept below 8% by volume. If vessels are laid up in areas where frost may be expected, water locks for inerted systems should be filled with anti-freeze coolant.

Gas concentration, or O_2 content if inerted, should be measured regularly. Special attention should be paid to gas concentration with increase of temperature. Results should be recorded in the Log Book.

If inert gas is not available, CO_2 may be used, e.g. for slop tanks.

Hot work should be carried out only with a valid hot work certificate and appropriate safety precautions in place.

Valves or cocks to oil tanks in machinery spaces should be closed and drip trays should be cleaned. If machinery or boilers should be kept in operation during lay-up for power supply or heating, quick-closing devices for fuel oil valves should be checked.

Wire gauze in air pipes to fuel tanks and spark arresters in exhaust pipes to be in proper condition.

Any temporary installations like space heaters, driers or heaters for electrical equipment, stores etc. should be specially considered with respect to fire hazard.

All fire dampers in ventilators are either to be closed or clearly marked and kept easily closable.

Fire doors and watertight doors should be kept closed.

Flash Point on all residual and distillate fuels kept on board during lay up should be determined to confirm compliance with the prevailing SOLAS regulation of minimum 60°C. Analysis results based on samples taken during bunker deliveries, if available, should be sufficient.

As for other oil tanks hot work should only be carried out with a valid hot work certificate and appropriate precautions in place. Although fuel oil Flash Point is above 60°C over time, depending amongst other on climate/temperature, flammable gases may accumulate in the head spaces of the fuel oil tanks.

8.6.3 Fire detection and fire fighting arrangement

The fire alarm system shall be kept in normal operation during lay-up. It should be arranged in such a way that it is capable of alerting the crew or watch personnel.

The vessel's normal fire fighting equipment should be available and maintained with special attention to:

- Fixed fire fighting installations should be kept ready for operation and checked regularly in case the vessel is manned during the lay-up.
- Fire mains should be ready for use. Power supply to be available for operating the fire pumps. These should be checked and run regularly.
- Emergency fire pumps must be ready for use and to be checked and run regularly.
- International shore connection must be available and clearly marked.

8.6.4 Precautions against flooding

A double barrier towards flooding should be maintained for all overboard connections. Inspection hatches, etc. of equipment located below the waterline should be kept closed if connected to the seawater system.

All overboard valves not in use and all sea inlet valves not in use (except for cooling of prime mover for emergency electric power generation and fire pumps) should be closed.

Water level in ballast tanks, pump rooms and bilges should be checked regularly. Level and bilge alarms shall be kept in normal operation.

Bilge lines to holds, pump rooms, cofferdams and engine room to be kept ready for use. Sufficient electric power should be available for the bilge pump.

All pipes liable to be damaged by frost should be drained or otherwise protected.

Temporary bilge alarms should be arranged for in the engine room, if not already fitted.

8.6.5 Communication

Reliable means of 24 hours communication should be available for immediate contact for local assistance or rescue facilities.

Two separate means of communication should be provided.

8.6.6 Navigation lights and fog signalling system

Anchor lights, and if necessary, additional position markings, e.g. lights marking the bow and stern, should be well maintained. Supplemental deck lighting should be used if the vessel is laid up near shipping lanes.

Fog signalling system should be kept readily available.

8.6.7 Lifesaving equipment

Lifesaving equipment and distress signals appropriate for the lay-up site and the total complement on board should be kept available. Periodical servicing of life-raft should be carried out as per normal requirement.

8.6.8 Emergency contingency plan

An emergency contingency plan should be available.

8.7 Anti-pollution measures

Depending on the lay-up mode, bilge water and water accumulated on deck should be pumped into slop tanks or similar as far as applicable. On tankers the cargo tanks should be cleaned and dirty residues disposed of at a reception facility.

8.8 Security

Means to prevent unauthorized access to the vessel should be established. Doors and openings should be kept locked, bearing in mind emergency escape possibilities for the persons onboard.

Regular watch-keeping routines, reflecting the security situation at the lay-up site should be established.

Procedures for periodical testing of the Ship Security Alert System (SSAS) should be established.

8.9 Stability and other risks after lay-up

The following represents a hazard to the crew and the vessel and should be assessed prior to departure from lay-up in rough weather:

- Stability:
- Vessels with a low metacentric height (GM) will be more exposed to longer periods of roll which increases the risk of a ship capsizing
- Certain vessels with a large metacentric height (GM) while being laid up (e.g. container vessels) will be more exposed to waves with shorter periods. This might cause resonance and excessive roll.
- Course Keeping: Reduction in maneuverability when in ballast
- Longitudinal strength: Excessive bending moments when in ballast.

9. PRESERVATION MEASURES

9.1 Lay-up Preservation Declaration

Upon request, **TL** may issue a Lay-up Preservation Declaration confirming that a vessel has been laid-up in accordance with either of the standards below:

Preserved: Preservative measures and maintenance according to 9.3 or similar.

- The vessel with machinery and equipment is properly preserved.

Dry preserved: Preservative measures and maintenance according to 9.4 or similar.

- The vessel with machinery and equipment is properly preserved in a de-humidified atmosphere.

Recommendations on how to achieve this are given in the following. It is recognised that there may be alternative ways to achieve equivalent preservation of a laid-up vessel, but in order to qualify for a Lay-up

Preservation Declaration from **TL** the above overall requirements shall be met, and the following recommendations followed or met by actions resulting in an equivalent preservation level.

Proposed methods of preservation as well as a maintenance programme should be submitted before the initial survey. Re-surveys shall take place 6 months after the initial survey, and thereafter annually.

9.2 General

9.2.1 Equivalent solutions

The following recommendations are based on **TL**'s experience with preservation of laid-up vessels, but it is recognised that there may be other ways to achieve good preservation. It is encouraged to seek manufacturer's recommendations for preservation of specific equipment and machinery. Such recommendations are in general to replace recommendations given in this Guideline.

9.2.2 Lay-up plan

A lay-up plan outlining the preservation and maintenance routines during the lay-up period should be available.

9.2.3 Lay-up log

All preservation actions should be logged. The log should include required actions at re-commissioning for each item.

Preservation and maintenance actions taken during the lay-up period should be logged, and may form a basis for reduced scope of the re-commissioning survey.

A log of equipment and spares removed from the vessel should be kept.

9.2.4 Lay-up environment

Preservation measures should in general reflect the environmental conditions at the lay-up site. If laid-up in a location that may be subject to sub-zero temperatures, measures to prevent damages due to freezing should be taken. Any mentioning of freezing in this Guideline applies to vessels laid-up in such locations only.

9.3 Preservation

9.3.1 Hull

9.3.1.1 General

All drain pipes and scuppers should be kept clear and open. Decks should be kept clean, and loose and foreign items removed or properly secured. Any corrosive products should be properly sealed and safely stored.

Hatches and doors should be closed weathertight. Possible open cargo tank hatches should be protected with tarpaulins. Skylight should be closed and preferably covered with tarpaulins.

Except for necessary ventilation to each compartment, ventilators, air pipes and similar should be closed.

All sidelights, windows and deadlights, where fitted, should be closed.

Dependent upon the machinery condition the funnel openings should be covered weathertight.

9.3.1.2 Underwater parts

The vessel's external coating systems should be in good condition prior to lay-up. If not, additional protection with either sacrificial anodes or an impressed current system is recommended used. For lay-up periods > 12 months, cathodic protection is recommended irrespective of coating condition.

For vessels not protected by sacrificial anodes or an impressed current system, stainless steel propellers should be protected against corrosion by a sacrificial anode fitted to the boss.

Impressed current systems, if fitted, should be maintained in an operational mode suitable for the lay-up situation, and controlled at regular intervals. The operational mode should be such as to avoid over-heating of anchor chains and mooring cables. A suitable criterion for cathodic protection may be 0.80 V vs. Ag/AgCl/ Seawater reference electrode.

A logbook should be kept. If sacrificial anodes or impressed current systems are fitted, proper electrical earthing of propeller and rudder should be ascertained. Where two or more vessels are moored together, and where one or more of these vessels have cathodic protection as described above, the vessels' hulls should be electrically connected to each other.

All valves to or from the sea should be wired or locked closed, except those required for use during lay-up in connection with fire extinguishing, pumping out or watch personnel service. In order to prevent excessive fouling and choking, the sea suction openings (except for fire pumps) should be covered over and/or protected with a slow-acting biocide or cathodic protection specially designed for sea water inlets.

9.3.1.3 Hull above waterline

All paint should be in a proper condition and necessary touch-up carried out prior to lay-up or issue of declaration. Special attention should be given to the area just above the waterline.

9.3.1.4 Tanks and holds

Chain lockers should be dry.

Ballast tanks should be kept either full, or completely empty and dry.

Ballast tanks and cargo tanks kept full should be protected by anodes, unless protected by coating in a GOOD condition. For lay-up periods > 12 months, cathodic protection is recommended irrespective of coating condition.

The design of sacrificial anodes should be dimensioned for a realistic percentage of coating imperfections.

Arrangement and age of possible existing anodes should be considered, and additional anodes fitted as found necessary.

Impressed current system or magnesium anodes shall not be used in tanks. Empty cargo tanks and cofferdams may be filled with dry inert gas. The dryness of the gas should be controlled and kept on a safe level with regard to corrosion. It is recommended that oil with no, or very low sulphur content is used for inert gas production.

A suitable inhibitor may be applied in sludge tanks, dirty bilge tanks, etc. if these are not kept clean and dry.

Adding of inhibitor is also recommended for bunker oil tanks for heavy oil if not kept completely full or empty.

An inhibitor which does not cause harm to boilers or machinery should be used.

Other tanks should be kept either completely full, or empty and dry.

Due consideration should be given to preventing freezing of tanks.

9.3.1.5 Deck piping

In addition to protective measures against corrosion, deck and accommodation pipelines should be protected against freezing if relevant.

Cargo oil pipes, deck steam pipes, Butterworth lines, heating coils, exhaust, water and air pipes and ballast lines for dry cargo vessels should be well drained, preferably blown through with dry air or dry inert gas and left with drains open.

If not subjected to freezing, above-mentioned pipes may alternatively be filled with inhibited water. It is recommended that cargo oil lines first be flushed clean.

Fire lines and bilge lines should be drained and dried, but should be completely boxed up again and ready for service.

Sea valves for these systems should be easily operable and marked, or left open. Spindles on all valves should be well greased.

9.3.1.6 Deck machinery

Deck machinery should be carefully oiled and protected with grease.

For reciprocating machinery, non-contaminating corrosion protection should be applied to cylinders and slide valves after draining carefully. Windlass and important mooring winches should after above treatment be kept ready for operation.

Deck machinery should be turned at regular intervals.

9.3.1.7 Blocks, running gear and fittings

Wires and blocks for cargo gears not intended for use during lay-up period, should be dismantled and stored in a dry place or be left in place well-greased.

All deck fittings such as hinges, rollers, valves, valve spindle boxes etc, should be well protected by grease or protective oil.

9.3.1.8 Accommodation

Accommodation including navigating bridge and radio room should be protected against corrosion and other deterioration by means of a suitable system, e.g. by a dehumidified atmosphere having a relative humidity below 60%.

9.3.2 Engine and boiler rooms

The temperature in engine and boiler rooms should be maintained about 3°C above the outside temperature and never below 0°C.

9.3.3 Machinery

9.3.3.1 General

Prior to lay-up or issue of a declaration, all machinery should be established to be in normal good condition.

System lubrication oil for main systems should be thoroughly purified, and oil from each system should be analysed for water and alkalinity as well as acidity.

All lubricating oil ventilating pipes should terminate inside the machinery space, but above the freeboard deck level for double bottom tanks.

Engines should be clean and it is advised to run all combustion engines on water free diesel oil prior to lay-up.

Movable parts, like valve spindles, links, hinges etc. should be well greased. Other vulnerable metallic parts directly exposed to atmosphere should be covered by protective oil.

Rotating machinery, including electric motors and generators, should be turned at regular intervals. After turning, it should be checked that the shafts have changed positions.

Lubricating oil pumps should be run. Lubricating oil priming should be carried out before turning. It is recommended to jack up the crankshaft of engines to facilitate good lubrication prior to turning.

All air intakes and exhaust openings should be covered over. Supply and exhaust openings for necessary emergency diesel generator or fire pump engines should be arranged for immediate or automatic opening.

Purifiers should be run before and after turning of machinery.

Draining of water from tanks should be done regularly where possible.

9.3.3.2 Reciprocating machinery

Cylinder liners and pistons should be protected by means of inhibitors or non-contaminating oil.

Lubricators should be hand turned at regular intervals.

Crank cases should be regularly inspected to ensure absence of condensate or corrosion.

9.3.3.3 Turbine machinery and reduction gears

Turbine and gear housings should be dried out by dehumidified air and arrangements should be made to maintain dryness (RH < 50%). Alternatively special protective oil may be applied.

Regular inspections should be carried out to ensure absence of condensate or corrosion.

Governing oil pumps should be run regularly and different parts moved.

9.3.3.4 Stern tube

For water-lubricated stern tubes, gland packing should be sufficiently tightened to prevent water leakage.

For oil-lubricated stern tubes, upper header tank should be used, and prior to lay-up it should be confirmed that the stern tube is free from water.

For stern tubes with forced oil circulation, pumps should be run at regular intervals.

When turning, larger stern tube bearings may sustain damage. It is therefore advised to limit the slow-tuning to for instance a few (3-4) revolutions, and not do this operation for hours. For large vessels, long shafting and

heavy propeller, it is recommended to have shaft arrangement plan analysed in order to make a plan for turning during lay-up.

9.3.3.5 Seawater system

All parts of the seawater systems not in use should be emptied, and pipes and heat exchangers flushed through with fresh water and completely dried out. For heat exchangers a thorough cleaning should be done to remove all growth and deposits.

Both heat exchangers and pipe system should after cleaning and drying be kept open to the dehumidified atmosphere. Regular blow through by dehumidified air should be done.

All sea suction and discharge valves not in use should be closed and secured. Spindles and turning gear should be protected by grease or protective oil.

Vessel side valves should be moved at regular intervals. This implies that means of closing the system should be arranged inside the vessel side valves.

9.3.3.6 Fresh water systems

Cooling water systems on engines may be left filled up with chemically treated water (in order to prevent corrosion as well as settlements) with head to expansion tank.

9.3.3.7 Starting air system

Starting air receivers may be kept fully charged or empty, clean, dry and open. At least one auxiliary starting air bottle is, however, should be kept fully charged to maintain auxiliary engines ready for start.

Charged air receivers as well as air piping should be drained at regular intervals.

9.3.3.8 Refrigerating plant

In addition to preservative measures given for relevant type of machinery used, refrigerant and brine systems should normally be kept tight and sealed. Filters, oil separators etc. should be cleaned.

9.3.3.9 Hydraulic systems

Hydraulic systems and governing oil systems should be completely full and care taken to ventilate air and drain all water out of the system. Movable parts should be well greased or protected with corrosion protective oil.

9.3.3.10 Steering gear

See precautions listed for hydraulic systems and electrical equipment.

Steering gear should be tested at regular intervals and rudder operated from hard over to hard over.

9.3.3.11 Fuel oil system

Provided practicable bunker tanks containing residual and marine diesel oil (black oils) should be emptied and cleaned prior to lay up, or during the initial stages of lay up to.

Fuel oil separators and filters should be emptied and cleaned.

Fuel oil lines containing residual fuel oils should be emptied. Preferably all engines and systems should be flushed with marine gas oil prior to shutting down.

If residual and marine diesel oils shall be kept on board, these fuels shall be analysed to establish the quality, with regards to water, sediments and abrasive particles. These contaminants will settle out over time and pose a potential damage risk to vital engine components during re-commissioning.

If possible, fuels kept on board during lay-up should be circulated at regular intervals to prevent settling of contaminants, while representative samples should be taken and analysed.

Special attention to be paid to the potential development of microbiological activity in distillate fuels during lay-up. Microbes in distillate fuels as well as in lubes and hydraulic systems may cause filter blockages and corrosion to tanks, pipes and equipment. There may be an increased risk of microbes developing in tanks and systems of idling or laid up vessels due to settling out of water, hence such samples should, where practicable, be taken from the oil/water interface area.

Draining of free water from fuel oil tanks, where practicable, should be carried out at regular intervals. This would also preempt the development of microbes.

9.3.4 Boilers and steam system

9.3.4.1 Fire side

The whole fire side, including economisers and air heaters, should be thoroughly cleaned prior to lay-up to remove all accumulation of deposits. Special attention should be given to super heaters.

Following the cleaning, the boiler should be fired with Diesel oil to dry out insulation and brickwork and left open.

If wet conservation method is employed for water/steam side, precautions should be taken to prevent sweating accumulating in insulation.

9.3.4.2 Water/steam side

Either dry or wet lay-up condition may be used. In both cases the boiler should first be carefully drained.

Dry lay-up condition means that the boiler is protected by a dry atmosphere.

Wet lay-up condition means that the boiler is filled with and protected by inhibited water.

If the wet method is applied, the following should be carried out:

- The boiler is re-filled with inhibited water. Manufacturers should be consulted regarding water treatment.
- The boiler is fired (heated) and air vented to atmosphere.
- A temporary circulation of boiler water is arranged, circulation should be continuous, and the boiler left open to atmosphere with head for ventilation.
- Alternatively, the boiler may be kept slightly pressurized after careful removal of all air.
- Boiler water should be controlled at regular intervals.

If dry method is applied, either of the following should be carried out to obtain dryness:

- Blanking off and evacuating to a vacuum giving desired dryness.

- Blanking off and pressurizing with dry air or inert gas, then blow down after stabilization time. This procedure should be repeated until desired dryness.

- Blanking off and charging with trays of drying agent, which should be frequently changed or reactivated until desired dryness is obtained.

Upon completion of the drying process, the following alternatives may be applied:

- The boiler is slightly pressurized with inert gas (Nitrogen) with dew point below 0°C.

- The boiler is charged with trays of desiccant and sealed. Drying agent should be changed or reactivated at regular intervals.

- The boiler may also be left open for slight air circulation with a heat source inside the upper part of the boiler.

- Dehumidified air is circulated in the boiler.

9.3.4.3 Steam system

For the main steam systems, with high pressure steam pipes and feed water pipes, feed water heaters and deaerator, the same methods as described for boilers are recommended.

Other steam lines and exhaust lines should be well drained and dried and ventilated with dehumidified air.

9.3.5 Electrical installation

9.3.5.1 General

Electrical equipment should be protected against moisture absorption in insulation material and damage to rotating parts due to corrosion.

9.3.5.2 Insulation

All electrical equipment should be maintained with a temperature some degrees above surrounding atmosphere or in a dehumidified atmosphere (RH < 50%). Prior to lay-up or issue of declaration, insulation resistance should be confirmed acceptably high. If necessary, cleaning of insulation to improve resistance should be carried out.

Built-in heating elements in generators and motors should be in use.

Equipment not initially fitted with heaters should periodically be put into service, so that it is heated until moisture is removed. Insulation resistance should be confirmed each time.

9.3.5.3 Generators and motors

Brushes should be lifted from slip rings and commutators.

Turning should be carried out at regular intervals.

9.3.5.4 Storage batteries

Automatically regulated trickle charging systems for storage batteries should be kept in operation. Batteries without automatic charging system should be recharged monthly. Liquid level should be checked for all batteries.

Special precautions may be required in very cold weather.

Battery manufacturer's recommendations should be consulted.

9.3.5.5 Electronic equipment and computers

Manufacturer's recommendations should be followed.

It is advisable to maintain a dehumidified atmosphere on the navigation bridge, in control rooms and all other rooms containing computers and electronic equipment. The relative humidity should be controlled at regular intervals.

Subject to manufacturer's recommendations it may be advisable to keep equipment under constant voltage, or to put it into service at regular intervals both for additional moisture removal and to recondition components.

9.3.6 Instrumentation and automation

9.3.6.1 General

Uniform guide lines for instrumentation and automation equipment cannot be given, but general considerations are given below. Manufacturer's recommendations should be consulted.

9.3.6.2 Electric and electronic equipment

Precautions should be taken to prevent damage from moisture.

In addition to counter measures given in 9.3.5, it may be advisable to leave some types of instrumentation equipment with voltage on, (e.g. smaller transformers and rectifiers).

Instrumentation equipment placed in open machinery spaces should be cleaned prior to lay-up. Movable parts should be run over the full operation range; thereafter they should be protected with oil or grease according to Manufacturer's instructions.

9.3.6.3 Pneumatic equipment

Whole piping system should be thoroughly blown through, and all drains left open. Alternatively, the system may be in operation. Components, such as controllers and transmitters with delicately built mechanisms, e.g. flapper nozzle systems, should be cleaned and covered with protective covers.

Regular controls should be carried out if the system is in operation.

9.3.6.4 Hydraulic systems

Item 9.3.3.9 applies.

9.4 Dry preservation

9.4.1 General

All provisions under Item 9.3 apply, except that the temperature in the engine room and other spaces need not be kept above the ambient temperature, but not below 0°C.

Spaces, equipment and machinery should be protected by the use of a dehumidified atmosphere with a relative humidity below 50%. A safe method for keeping this atmosphere under control with regard to humidity should be established, and arrangements should be made to maintain the relative humidity below the given limit.

Cooling water should be drained from machinery.

Dry lay-up of boilers and steam system to be applied.

9.4.2 Hull

9.4.2.1 Ballast tanks

Ballast tanks in use shall have efficient corrosion protection with coating in a GOOD condition throughout.

For ballast tanks not in use, a dehumidified atmosphere should be secured, and the tanks sealed off.

9.4.2.2 Cargo tanks, pump rooms, etc.

For cargo tanks and holds not in use for ballast purposes, for pump rooms, cofferdams and pipe tunnels, a dehumidified atmosphere should be secured, and the tanks/rooms sealed off.

9.4.2.3 Deck piping

Cargo oil pipes, deck steam pipes, Butterworth lines, heating coils, exhaust, water and air pipes and ballast lines not in use should be cleaned, well drained, and kept protected by a dehumidified atmosphere.

9.4.2.4 Deck machinery

Deck machinery which is not needed for instant operation should be protected by a dehumidified atmosphere.

9.4.2.5 Accommodation

Accommodation, including navigating bridge and radio room, should be protected by a dehumidified atmosphere.

Parts of the accommodation in use may be held at a comfortable atmosphere with moderate relative humidity.

9.4.2.6 Engine- and boiler rooms

Engine and boiler rooms should be protected by the use of a dehumidified atmosphere.

Air supply to the engine room for possible working of combustion engines should be arranged in such a way that the dryness of the atmosphere is not influenced.

9.4.3 Machinery

9.4.3.1 Reciprocating machinery

Crank case should be protected by the use of a dehumidified atmosphere.

9.4.3.2 Turbine machinery and reduction gears

Turbine and gear housings should be protected by the use of a dehumidified atmosphere.

9.4.3.3 Fresh water systems

Cooling water systems on engines not in use should be emptied and dried.

Care should be taken to remove all water from cooling spaces, and thorough ventilation with dehumidified air is required.

9.4.3.4 Starting air system

Starting air receivers should be kept empty, clean, dry and open to the dehumidified atmosphere in the engine room.

At least one auxiliary starting air bottle should be kept fully charged to maintain auxiliary engines ready for start. It should be confirmed prior to lay-up that drains are clear. Air piping should be drained and dried out.

9.4.4 Boilers and steam system

9.4.4.1 Fire side

Arrangements should be made to circulate dehumidified air through the boiler and maintain a dehumidified atmosphere.

9.4.4.2 Water/steam side

Dry lay-up condition should be used.

After careful draining, drying should be executed by circulating dehumidified air through the boiler and the steam system.

9.4.4.3 Steam system

The whole steam system should be preserved by means of dehumidified air. An arrangement combined with the boiler should be established.

9.4.5 Electrical installation

9.4.5.1 General

Local arrangements with dehumidified atmosphere should be established for components such as switchboards, starter boxes, instrumentation units etc.

Regular control of relative humidity on components as well as regular change/reactivation of possible drying agents should be carried out.

9.4.6 Instrumentation and automation control room

Control room in engine room and other rooms containing sensitive electronic equipment should be protected by the use of a dehumidified atmosphere.

10. RE-COMMISSIONING

10.1 General

In general both the length of the lay-up and the preservation and maintenance carried out during the lay-up have great impact on the required extent of re-commissioning work. Therefore, all preservation actions should be logged during lay-up. The log should include required actions at re-commissioning for each item in order to enable an orderly re-commissioning process.

Classification requirements regarding re-commissioning are outlined in 4.2 of this Guideline and may be more extensive than what is outlined in 10.2 below.

The following steps should be taken by the owner upon re-commissioning of a vessel:

- Notify local port authorities in the lay-up area.
- Notify the classification society and check which class requirements have to be fulfilled prior to leaving the lay-up site.
- Ensure that the Safety Equipment Certificate and all other statutory certificates are valid.
- Re-commission the vessel, using vessel's crew or other competent personnel (preferably with guidance and attendance of local class surveyor).

10.2 Practical procedures

All temporary arrangements or installations in connection with the lay-up should be removed, such as temporary drying, heating and ventilation systems as well as locking of valves or temporary anode installations.

Necessary consideration should be given to protective oils or inhibitors applied; that they are either removed or that it is confirmed that they will not have harmful effects if remaining in the systems.

10.2.1 Hull

If the vessel has been laid-up for more than 12 months the submerged hull should be checked by a diver. The sea chests should either be confirmed free from excessive marine fouling, or such fouling should be removed.

Anchoring and mooring equipment should be checked and operated.

10.2.2 Cargo tanks

Temporary anodes should be removed.

Tanks which have been filled with water ballast containing corrosion inhibitor should be emptied and cleaned in accordance with manufacturer's instructions.

All tanks should be well ventilated and proved gas-free.

Heating coils should be blown through by steam or air.

All other tank equipment should be checked and verified to remain efficient.

10.2.3 Safety equipment

All equipment should be checked to the satisfaction of relevant authorities.

Particular attention should be given to emergency and fire fighting systems.

10.2.4 Machinery

Samples of lube oil should be submitted for full analysis.

All systems should be checked for completeness and sufficient operation.

Representative samples of all fuel oils kept on board during lay up (residual and distillates) should be taken and thoroughly analysed prior to use in diesel engines.

Depending on lay-up location (climate) representative samples of residual fuels may not be possible until steam is available to heat up the fuels

10.2.5 Boilers

All burners should be dismantled and cleaned. Fuel oil should be circulated through the oil burning system.

All safety measures and emergency shut-off should be tested.

Care should be taken to proceed slowly when raising steam production.

10.2.6 Main engines

If rust-prevented oil has been used, this should be removed in accordance with supplier's recommendations.

Cooling water for pistons and jackets should be circulated and checked for leakage.

A complete survey of one cylinder unit with gear as well as two main bearings should be carried out to check condition of contact surfaces.

Fuel valves should be cleaned and adjusted and the fuel system checked for leakage.

Checking of crankshaft deflection should be considered.

10.2.7 Electrical equipment

All circuits should be checked for insulation resistance to earth.

All electrical cables and equipment should be examined.

Overload trips of all generator breakers should be checked for satisfactory operation.

10.2.8 Navigation

All navigation equipment should be verified to be in good order.

All required charts and publications should be up to date.

10.2.9 Spare parts

Spare parts removed from the vessel during the lay-up period should be replenished.

10.2.10 Testing

Testing should include at least the following equipment:

- main engine safety alarms
- engine should be run ahead and astern by engine room and bridge controls, including testing of shut-down and slow-down functions
- auxiliary engines with connected automation equipment
- all pumping, pneumatic and hydraulic systems
- all alarms covering ME, auxiliaries with steering gear
- remote operation of fuel oil and lube oil, pumps and valves
- cargo and ballast pumps

- bilge pumping systems
- all communication systems
- steering gear, including emergency operation
- all deck machinery and equipment
- all navigation and sounding lights and signals.

10.2.11 Antifouling coating system

All vessels will experience fouling during lay-up. The extent of the fouling is dependent on time, location and duration among other factors. Hence there can be a need to clean the hull prior to re-commissioning the vessel.

It is advisable to contact the coating supplier for the best cleaning procedure.

The most common in-water cleaning methods are rotating brushes or flushing. Brushing is mainly used on conventional antifouling coatings and hard coatings. Rotating brushes can damage and remove some of the antifouling coating. Depending on the local environmental legislation, one may be required to get a permit to carry out this kind of work as coating fragments are released to the environment.

Foul release coatings are typically less resistant to mechanical damage; hence they are not suitable for brushing.

For foul release coatings the most suitable cleaning method seems to be flushing.

It is not unlikely that during the lay-up and in particular during the cleaning operation, the coating is damaged to such an extent that re-application of antifouling coating in the dry-dock will be necessary.

11. DECLARATION FOR CLEAN LAY-UP

11.1 General

Upon request, **TL** may issue a Clean Lay-up Declaration confirming that a vessel has been laid-up in accordance with requirements of 11.1.1 to 11.1.4.

11.1.1 Emergency Preparedness

The vessel shall have shore based assistance (e.g. Emergency Response Service) maintained during the laid-up period. The shore based assistance shall ensure a quick response in case of emergencies such as oil-spill, dragging of anchor, collision/ grounding, fire on board.

The status of water ballast and consumables remaining on board during the lay-up shall be available. The documentation shall be suitable to assist the captain in case of emergency, such as fire, grounding and collision.

A mooring quick release procedure shall be available. This procedure shall include the release of all mooring lines and anchors in case of emergency. The procedure shall also include the fastening of towing lines (fwd./ aft) for tug boat assistance.

11.1.2 Procedures to prevent pollution

As a principle, discharge to the sea shall not be permitted. This includes items such as deck drainage, leakage from the stern tube and bunkering procedures.

In case of leakage or oil spill, anti-pollution procedures shall be in place. This may be arranged by shore based assistance.

Provisions for the reception of garbage, sewage, sludge and other waste to shore shall be arranged.

11.1.3 Air and noise pollution

Any emission to air shall be minimized as far as possible. Generators in use shall comply with the MARPOL Annex VI requirements for air emission.

Any noise pollution shall be limited. This applies mainly to portable deck generators. If deemed necessary noise measurements should be taken in the nearest residential areas. Alternatively, the noise emission from the sources may be measured and noise level in the most exposed residential area may be calculated. Measured or calculated noise levels must be compared with the acceptable noise limits (ref. to IMO Res-A.468 XII) and should not exceed 60dB. Noise reducing measures should be carried out if found necessary.

11.1.4 Antifouling coating treatment and marine growth

Generally marine growth should not be removed at the lay-up site. If removal of excessive growth will be necessary upon re-commissioning only such methods are acceptable which will not release any paint particles into the water. These methods include flushing and other methods proven not to have any abrasive effect on the coating.

TÜRK LOYDU

LAY-UP PLAN TEMPLATE / EXAMPLE

1. Vessel's Data

Name of Vessel:			
Ship Type:			
TL Register No:			
IMO No:			
Date of Completion:			
Flag / Port of Registry:			
Length Overall [m] :		**Moulded Depth [m] :**	
Tonnage Length [m] :		**Draught [m] :**	
Tonnage Breadth [m] :		**Freeboard [m] :**	
Gross Tonnage :			

2. Manning

	Name / No	**Rank / Duty**	**Qualifications**
1			
2			
3			
4			
5			
6			
7			

Remarks / Watchkeeping	

3. Mooring / Anchoring Arrangement

At least the following information needs to be attached to the sketch:

- ☐ Properties of mooring lines
- ☐ Length of anchor chains
- ☐ Distances between bollards (berth & ship)

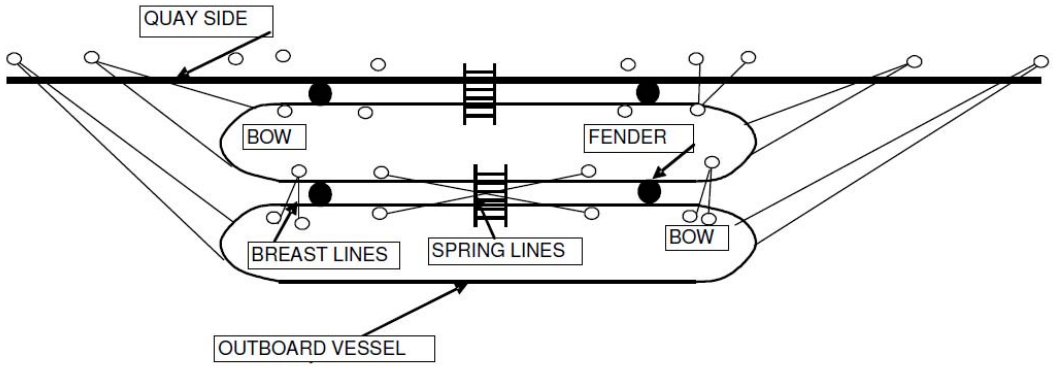
☐ Safe working loads of bollards (berth & ship)

☐ Gangway

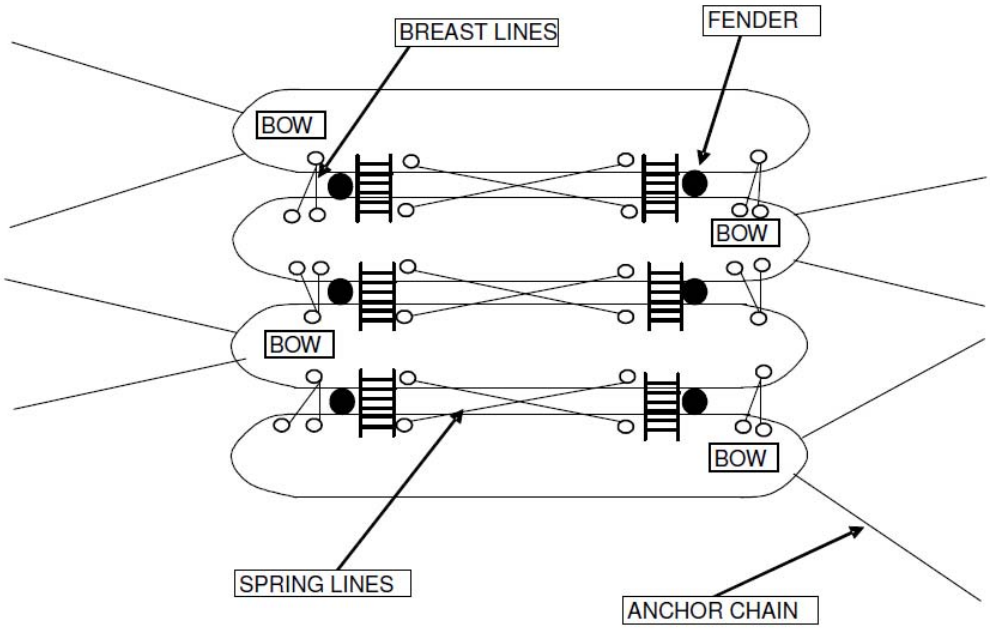
☐ Maximum tidal variation

Lay Up Location

☐ Typical Lay-up – Berth (please specify No. of vessels):



☐ Typical Lay-up – Anchorage (please specify No. of vessels and anchors):



☐ Other (please enclose the sketch)

4. Emergency procedure in case of fire, water ingress, illegal boarding and adverse weather (please enclose to the plan)

Example:

4.1 Fire

In case of fire, the ship's fire alarm system must be activated

The ship is equipped with the following firefighting equipment ready for use at all times:

- Fire hoses distributed on deck, accommodation and machinery spaces
- International shore connections in Deck Store
- Dry powder, foam and CO2 fire extinguishers distributed on ship as per fire plan
- Fireman's outfit & breathing devices in Fire Station store
- Sand box with scoop in Engine Room
- Portable foam applicators

CO2 system in Engine Room, foam system on deck and sprinkler system in paint store are fully operationally on board

Emergency generator is ready for use at any time

One stand by generator may provide the ship with sufficient power supply covering all needs for fire fighting

The crew on board are fully trained for use the fire fighting equipment

In case of fire, emergency contact persons such as fire brigade and coast guard will be immediately informed

The emergency contingency plan will be activated

4.2 Water Ingress

The ship's fixed bilge level audible and visible alarm will be activated

Bilge pump is ready for use any time

Emergency contact persons will be informed immediately

4.3 Illegal Boarding

There is always one person on watch for security reasons on board

In case of illegal boarding, emergency contact persons such as harbour police will be immediately informed

4.4 Oil Pollution

Approved Ship Oil Pollution Plan is available onboard and will be activated in an emergency

Emergency contact persons will be informed immediately

4.5 Adverse Weather

The vessel will leave the lay-up location to avoid a storm. The b.m. procedures will be implemented:

<u>Engine Room</u>

1. Increase the boiler pressure and preheating temperature to the working level

2. Start aux. generators

3. Start lubricating oil purifier

4. Start lubricating oil circulation after appropriate time

5. Test cooling system

6. Start fuel oil supply

7. Open Starting Air System

8. Turn M.E.

9. Observe control systems

10. Start M.E.

11. Start cooling system

12. Test of steering gear and shaft generator

Bridge

1. Turn on all navigation and communication equipment

2. Test of all navigation lights and signals

3. All safety equipment to be deployed in pertinent locations

4. All emergency departure measures need to be described in the Log Book

5. The master should to be in contact with superintendent during the whole time

6. The superintendent should contact TL, flag & local authorities as soon as possible.

5. Ballasting plan for the proposed lay-up condition (Loading Computer)

Lay-up Draught (fore) [m] :		**Lay-up Freeboard (fore) [m] :**	
Lay-up Draught (midship) [m]:		**Lay-up Freeboard (midship) [m]:**	
Lay-up Draught (aft) [m] :		**Lay-up Freeboard (aft) [m]:**	
Lay-up Trim [m] :			

5.1 Summary Load Condition (Start lay-up)

Item	Weight [MT]	VCG[m]	LCG[m]	TCG[m]	FSM [MT-m]
Lightship					
Cargo					
Ballast					
Fresh Water					
Fuel Oil					
Diesel Oil					
Lub Oil					
Stores					
Other					
Total					

5.2 Hydrostatic Particulars

Displacement [MT]:		**KG [m]:**	
LCF [m]:		**KMT [m]:**	
LCB [m]:		**GM [m]:**	
TCN [m]:		**GGo [m]:**	
TPC [MT/cm]:		**GoM [m]:**	
MCT [MT-m/deg]:		**KG (eff) [m]:**	

6. Statistical Environmental Data

6.1 Wind (Applicable if the vessel is on Anchorage)

Source Reference	

Average wind speed given by the table below is measured at ___ m above the mean sea level.

Month	Wind Speed (m/s)	Direction Probability (%)							
		N	NE	E	SE	S	SW	W	NW
January									
February									
March									
April									
May									
June									
July									
August									
September									
October									
November									
December									

6.2 Waves (Applicable if the vessel is on Anchorage)

Source Reference	

Significant wave height and period given by the table below is measured for __ year(s) average.

Month	Significant Wave Height (m)	Wave Period (sec)	Month	Significant Wave Height (m)	Wave Period (sec)
January			**July**		
February			**August**		
March			**September**		
April			**October**		
May			**November**		
June			**December**		

6.3 Current (Applicable if the vessel is on Anchorage)

Source Reference	

Current speed given below the table is measured at a distance __m below the sea level.

Current Direction (from)	Direction Probability (%)	Current Speed (m/s)
North		
North East		
East		
South East		
South		
South West		
West		
North West		

Maximum total current speed is __m/s.

6.4 Average Monthly Temperature (day/night) & Relative Humidity

Source Reference	

Month	Temperature(°C)		Relative Humidity (%)
	Day Night	Day Night	
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			

6.5 Tidal Levels

Source Reference	

Reference level: _____

- ☐ Lowest Astronomic Tide (LAT)
- ☐ Mean Lower Low Water (MLLW)
- ☐ Other (please specify):

_____
_____

6.6 Daily Weather reporting & storm warnings (describe the arrangements)

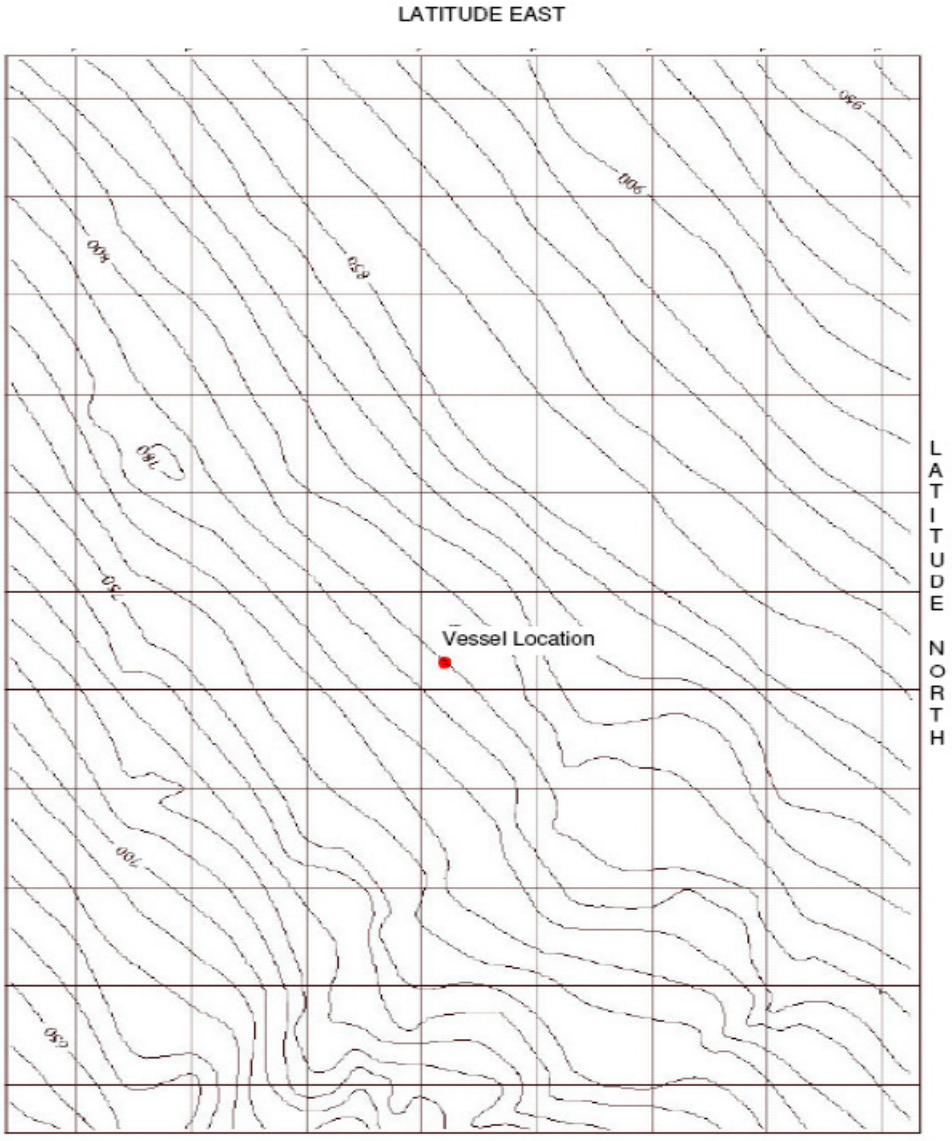
7. Bathymetric chart with vessel location

7.1 Bathymetric chart with vessel location – (please enclose to the plan)

The bathymetric charts show the depth contours of the seabed and they come in different formats (2-D, surface charts or digital). The figure that follows shows contour lines of seabed sounding with a given chart datum, such as the lowest astronomical tide. The reference level of the bathymetric charts is very important as is used together with the tidal information of the area to determine the minimum water depth and hence the vessel's minimum bottom clearance.

The bathymetric charts are normally kept in the Hydrographic database of the country to which the lay-up site belongs.

EXAMPLE – BATHYMETRIC CHART



Scale: 1:20 000

Chart Datum: LAT

Vessel's Coordinates: $\varphi = 06°42,71'$ N $\lambda = 125°25,84'$E

7.2 Calculation of minimum bottom clearance

Data from the following sections has to be used:

1. Bathymetric chart of lay-up site with vessel location (anchorage) or information from port authorities
2. Statistical environmental data for lay-up location for the year – use of tidal information
3. Ballasting plan for the proposed lay-up condition

Minimum water depth at lay-up area (Dmin) (Reference level as in 6.5)	_____(m)
Forward Draft (TF)	_____(m)
Aft Draft (TA)	_____(m)
Minimum Bottom Clearance (BCmin = 0)	_____(m)

7.3 Seabed conditions

Specify the kind of seabed in lay-up location

- ☐ Clay
- ☐ Sand
- ☐ Rock
- ☐ Other (specify)

8. Maintenance Lists (Below list is a representative example, but not limited, on how the maintenance check list may be presented

Equipment	Maintenance activities	Frequency	Remarks
F.O. supply pumps	Oil filled & valve shut		
Aux. boiler burner	According to manufacturer recommendations		
Engine Room	Take & log readings of humidity level		
Accommodation	Take & log readings of humidity level		
Record keeping	Log books with activities to be maintained		
Life saving equipment	To be tested and maintained in fully operational condition		
Fire fighting system	To be tested and maintained in fully operational condition		
Fire detection system	Check and test smoke, heat and gas detection alarm panel		
Fire alarms	Visual check & test		
Fire Pumps	Check whether fire pumps are ready for operation		
Emergency fire pump	Test & check		
SW & FW Pumps	Visual examination & turned		
Bilge Pump	Check whether bilge pump is ready for operation		
Bilge alarms & bilge valves	Verify proper operation & check for malfunctions		
Engine Room bilges	Visual check & clean, if needed		
Fire dampers	To be inspected & greased if needed		
Stern tube header tank	Oil level to be checked		
Emergency generator	Run emergency generator under load for 1 hour		
Battery	Check & charge if needed, Electrical measurements		
Tanks	Take and record all tank soundings		
Piping systems	Visual check of all filled system (such as hydraulic, fuel, LO etc) for leaks		
GPS	Operation of radar & check of vessel position		
Store’s crane	To be operationally tested		

Equipment	Maintenance activities	Frequency	Remarks
Lifeboats	Run Engine for 5 minutes		
Main Engine	To be turned with L.O. circulation		
Rotating machinery	To be turned to prevent distortion of bearings and components due to corrosion		
Auxiliary engines	Add lube oil to the pistons according to maker's recommendations, turned		
Hydraulic power packs	To be started & checked for proper operation		
Lighting	Check of lighting systems		
Emergency equipment	Test & check of emergency equipment for fire, leakage, security & environment		
Closed spaces	Visual check of sealing arrangements		
Ventilation fans	To be turned by hand		
Sea valves	To be periodically operated		
Communication systems	Test & check		
Electrical installations	Insulation tests of electrical circuits to be carried out and recorded		
Bow thrusters	Check atmosphere		
Steering gear & gear boxes	Inspect & add lube oil , turned		
Purifiers	Add oil and operate		
Refrigerator plants	Check for leaks		
Compressed air systems	Routine maintenance according to Manufacturer		
Air conditioning plants	Check for leaks		
Hull Corrosion	Check of hull's anodic protection		
Machinery Corrosion	Check of protective coatings for all external machinery		
Fenders	Check of fendering arrangements		
Embarkation arrangement	Check of embarkation arrangements		
Rudder	Rudder carrier bearing to be greased		

Equipment	Maintenance activities	Frequency	Remarks
Mooring & anchor winch	Check & grease, to be turned		
Mooring ropes	Adjusted through bollards / fairleads & marked for future reference		
Hatch Covers	Visual examination & check effectiveness of closing appliances		
External doors & windows	Visual examination		
Cabin equipment	Visual examination		
External hull above water	Visual examination of exposed decks & side shell		
Ballast & Cooling Water Tanks	Sample to be taken for monitoring the effectiveness of anit-corrosion systems		
Fire extinguishers	Examination		
Air receivers	Visual examination		
Lifeboat launching appliances	Visual examination		
Auxiliary boiler	Visual examination		
Auxiliary Engine Turbocharger	Visual check & maintain according to maker's recommendations		
Fuel Oil system	Visual examination		
Exhaust gas system	Visual examination		
CO2 bottles	Check content		
Foam tank	Check content		
CO2 fixed fire extinguishing system	Inspection of service		

9. Preservation Lists (Below list is a representative example, but not limited, on how the preservation list may be presented)

Description	Status			Remarks
	Yes	No	N/A	
Protection against UV damage on deck				Use of blinds in the accommodation and in crane cabs
Ballast tanks empty				No.1,2,3,4 W.B.T. (P&S) & F.P.T. fully dried, & sealed
Ballast tanks full				F.P.T & A.P.T. equipped with corrosion inhibitor
Fresh water tanks empty				Drained down and dried
Storage tank vents				Sealed against moisture
Cargo & Slop tanks				All cargo compartments emptied, cleaned and treated in gas free condition
Provisions' stores				Emptied and sealed
Cargo Holds Ventilation				Bags with absorbent deployed
Auxiliary pumps & systems not in use				Drained down, flushed and dried out according to maker's recommendations
Cooling systems				Dried out and open to dehumidified atmosphere
Water/steam systems not in use				Dried out and open to dehumidified atmosphere
Fuel injectors				Removed & placed in E.R. store
Fuel oil lines				Isolated
Fuel Oil Purifiers				Internals removed, greased and stowed in E.R. store. Crankcase drained, cleaned and oiled.
Sewage treatment plants				Drained down, flushed and dried out according to maker's recommendations
Air starting system components operation				Initially internally lubricated
Air compressors				Drain lube oil and recharge. Open inspection covers. Receivers are drained
HVAC systems				Air intakes / outlets are covered and sealed. Fire flaps are closed
Electrical cables & fittings protection				Protection against moisture according to makers' recommendations
Exhaust lines				Blanked and bags with sorbent deployed
Engine internals protected against corrosion				According to makers' recommendations
Engine externals protected against corrosion				According to makers' recommendations

Description	Status			Remarks
	Yes	No	N/A	
Main Engine				Dried, greased and opened up to allow de-humidified air to circulate according to maker's recommendation
Fuel valves in machinery				Removed, overhauled and stored
Turbo chargers				Cleaned, dried and closed with silica gel inside. Bearings lube oiled, greased according to maker's recommendation
Gears				Drained of all liquids, dried and greased. Preservation according to maker's recommendation
Shaft				Bearings lube oiled, greased. Preservation of exposed metal is carried out according to maker's recommendation
Engine Control room				De-humidified
Enclosed spaces in E.R. (except Engine Control Room)				Relevant ventilation fans in operation
Other spaces in machinery sealed off				List of sealed spaces is found in Wheel House
Bilge alarms				Temporary battery is installed to power bilge alarms
Hydraulic Power Pack				To be preserved as per maker's recommendation
Steering gear				All pumps & piping drained, dried and valves left open to air circulation
Cargo oil pipes protection				All lines drained, blown with dry air and left with drains open
Accommodation's protection				Seal effectively all major accommodation items not in use
Electrical apparatus on deck				Covered and bags with sorbent deployed
Cabins				Cabin linen stowed in ship's locker
Dangerous materials				All toxic, explosive and flammable materials which are not necessary during lay-up, have been removed
Spare parts				Stored in ship's lockers, and treated with preventive coating according to maker's recommendation
Deck machinery protection				Seal effectively all deck machinery not in use and add suitable lubricants to all deck machinery in use according to makers' recommendations
Navigation systems				Isolated & provide air – circulating. Loose navigational equipment removed and placed in ship's locker
Sea chests (except this used for emergency fire pump)				Blanked off

10 Emergency Contact List

Port	State	Date

Name of institution / person to be contacted	Address	Means of contact		Remarks
Owner/ Operator		Phone		
		Fax		
		VHF-Channel		
Technical Manager		Phone		
		Fax		
		VHF-Channel		
Agent		Phone		
		Fax		
		VHF-Channel		
Harbour Master		Phone		
		Fax		
		VHF-Channel		
Marine Police		Phone		
		Fax		
		VHF-Channel		
Fire Brigade		Phone		
		Fax		
		VHF-Channel		
Medical Centre		Phone		
		Fax		
		VHF-Channel		
Coast Guard		Phone		
		Fax		
		VHF-Channel		
Oil Pollution Port state contact		Phone		
		Fax		
		VHF-Channel		
Oil Pollution Cleaning Contractor		Phone		
		Fax		
		VHF-Channel		

Tugboats		Phone		
		Fax		
		VHF-Channel		
Türk Loydu		Phone		
		Fax		
		VHF-Channel		
P & I Club		Phone		
		Fax		
		VHF-Channel		
Insurance Company		Phone		
		Fax		
		VHF-Channel		

11. Flag state, port authorities and insurance company requirements

Please specify below and attach the required documentation of any additional requirement from the flag state and/or insurance company from these already state.

Flag State

Port Authorities

Insurance Company

Place/Date	Stamp	Name / Signature

Place/Date	Stamp	Name of Authorized Officers / Signature

TÜRK LOYDU

LAY-UP PLAN QUESTIONNAIRE

1. Vessel's Data

Name of Vessel:			
Ship Type:			
TL Register No:			
IMO No:			
Date of Completion:			
Flag / Port of Registry:			
Length Overall [m] :		**Moulded Depth [m] :**	
Tonnage Length [m] :		**Draught [m] :**	
Tonnage Breadth [m] :		**Freeboard [m] :**	
Gross Tonnage :			

2. Lay-Up Data

☐ Warm lay up ☐ Cold lay-up

☐ Up to 12 months ☐ More than 12 months

Lay up location:	
Coordinates:	

3. Required Lay-up Documents

Check which of the following documentation are submitted to HO	**Yes**	**No**
Bathymetric chart of lay-up site with vessel location (vessels on anchorage)		
Statistical environmental data for lay-up location for the year (vessel at berth, only temperature & tidal levels)		
Manning and watch-keeping plan		
Mooring arrangement or anchorage arrangement (sketch)		
Emergency procedures in case of: fire, water ingress, security, etc.		
Ballasting plan for the proposed lay-up condition (from loading computer)		
Maintenance checklist		
Description of preservation methods		
Emergency contact list		
Flag State and insurance company requirements (if any)		

3.1 Certificates

Name	Issuing Authority	Expiry Date	Due dates for survey
Passenger Ship Safety Certificate			
Load Line Certificate			
Safety Construction Certificate			
Safety Equipment Certificate			
Safety Radio Certificate			
Ship Sanitary Control Certificate			
International Air Pollution Prevention Certificate (IAPP)			
International Oil Prevention Pollution Certificate (IOPP)			
ISM Certificate			
ISPS Certificate			

3.2 Required drawings / Documents

Following list of drawings / documents are required to be kept available onboard.

	Yes	No
General Arrangement		
Tank Capacity Plan		
Bilge and Ballast System Diagram		
Fire & Safety Control Plan		
Fire fighting piping system		
Electric System Diagram		
Shore connection details [bilge/sludge/fire/water/sewage/electrical]		
SOPEP / SMPEP		

4 Other Requirements

	Yes	No
Are all lifting appliances, loose gear and equipment, above and below deck stowed and securely locked?		
Are there adequate number of pilot ladders depending on vessel’s position in the pack?		
Have provisions been made for adequate toilet facilities, sanitary flushing water and lighting for crew?		
Are accommodation / machinery / decks and storage spaces clean and stowed for seas?		
Have the TL guidelines been considered in the preparation of the lay-up plan?		

5 Bathymetric chart with vessel location (vessel on anchorage)

	Yes	No
Is the vessel location shown on the chart?		
Are traffic lanes and underwater obstructions clearly shown on the chart?		
Does the bathymetric chart show line or colour depth contours or digitized data?		
Are the chart datum and chart scale shown on the bathymetric chart?		
Are the soil conditions (mud, rock, sand, etc.) stated?		
Have the bathymetric data been endorsed by the local authorities?		

5.1 Statistical environmental data for lay-up location for the year

	Yes	No
Is the source of the environmental data clearly stated?		
Does the environmental data contain wind data for the whole year? (wind speed & direction)		
Does the environmental data contain wave & swell data for the whole year? (wave height, period, direction, swells)		
Does the environmental data contain current data (wind & tidal) for the whole year? (current speed & direction)		
Does the environmental data contain the extreme tidal data? (high & low levels & the chart datum)		
Are relative humidity and temperature data contained in the environmental data?		
Have arrangements been made for local daily weather reports & storm warnings?		
Does the environmental data from an official reliable authority (Met office, hydrographic institute, governmental organization, etc.)?		

5.2 Manning details

	Yes	No
Is there sufficient crew on board during lay-up period?		
Is the lay-up crew capable handling equipment for the lay-up operation?		
Is the manning level sufficient to guarantee safe watch keeping?		
Is the manning level sufficient to respond effectively in case of emergency?		
Has the manning level been agreed with Flag State, Port Authorities & Insurance company, if required?		

5.3 Mooring / Anchoring arrangement

☐ Berth – single or multiple vessels	☐ At buoys – single or pair
☐ Two or more anchors	☐ Rafts of two or more vessels
☐ Single anchor	☐ Anchors and stern lines
☐ Other (specify):	

	Yes	No
Has a sketch with the mooring / anchorage arrangement been prepared?		
Are mooring lines arranged sufficiently? (Observed high winds & currents from certain directions might make asymmetric mooring desirable)		
Is the vessel moored to prevent it swinging in wind and tidal changes? (anchorage only)		
Is the fore and aft direction of the vessel in the prevailing direction of winds? (anchorage only)		
Are all anchors provided with marker buoys? (anchorage only)		
For ships laid-up in groups, are vessels in alternate direction (bow to stern) and in even number?		

Is the fender arrangement sufficient at areas of possible contact with other ships or shore structure?		
Are lines in the same service of similar stretch characteristics?		
Are breast lines as perpendicular as possible to centerline and as far forward and aft as possible?		
Are spring lines orientated as parallel as possible to the centerline?		
Have the winches and windlass brakes been function tested prior to lay-up?		
Have spare or replacement mooring equipment been provided?		
Is there a safe gangway between ships and/or between ship and quay?		
Are there facilities to monitor vessel position (GPS) from shore?		
Are the vessel navigation shapes visible (if near traffic lanes)?		
Are the vessel navigation lights and foghorn fully functional (if near traffic lanes)?		
Is there a towing arrangement that can be used in case of emergency?		

5.4 Emergency procedures in case of fire, water ingress, illegal boarding etc

	Yes	**No**
Is there a fixed fire alarm system or a temporary fire alarm fully operative at all times?		
Is the fire fighting equipment such as fire hoses, international shore connection, fire extinguishers, fireman's outfit, breathing apparatus, emergency equipment etc ready for use at all times?		
Is the emergency fire pump ready for use at all times?		

Specify the source of power supply on board

☐ Stand by generator	☐ Separate generator located on deck
☐ Supplied from shore	☐ Supplied from mother vessel
☐ Other (specify):	

	Yes	**No**
Is the power supply on board sufficient for fire fighting, bilge pumping, lighting, and radio communications with the shore, the needs of the crew remaining on board, machinery maintaining and heating?		
Is there an emergency contingency plan available onboard?		

Which of the following measures have been taken to prevent the illegal boarding

☐ There is an appropriate security alarm system with remote monitoring
☐ All doors for access into accommodation & machinery spaces kept securely locked
☐ There is limited access for boarding by unauthorized persons
☐ There are permanent watch personnel on-board
☐ Other (specify):

	Yes	**No**
Are there sufficient emergency escape possibilities for the crew?		
Is the bilge pump always ready for use?		
Is there a fixed bilge level audible and visible alarm or a temporary, independently powered, alarm system fully operative at all times?		
For emergency cases, have external services (tug boat, fire brigade, coast guard, harbour police etc) been taken into account?		
Please state the time required for these services to reach the vessel:		

5.5 Ballasting plan for the proposed lay-up condition (Loading Computer)

	Yes	No
For ships laid-up in groups, are all vessels in-group of similar size and ballasted to similar freeboard?		
Are ballast tanks full or empty and dried?		
Are the sounding caps kept accessible, enabling soundings to be taken when required?		
Has the vessel's windage area been considered in relation to draught and wind direction?		

5.6 Maintenance check list

Maintenance procedure (list is representative but not limited to) carried out in daily, weekly, monthly or annual intervals (tick as appropriate & give the descriptions of tanks, systems & equipment have to been maintained, checked & inspected as well as the intervals)

	Yes	No
Maintenance of safety equipment necessary for the safety of vessel and the crew		
Maintenance & periodic operation of emergency fire pump		
Periodic operation or turning of rotary engines with oil circulation		
Periodic operation and maintenance of auxiliary engines, pumps, steam plants, purifiers and other machinery systems		
Regular operation and inspection of steering gear, propeller, shaft, bow thruster and gear boxes		
Regular operation of radar & frequent check of vessel position/ GPS		
Frequent examination of fire fighting equipment (eg. fire extinguishers, fire flaps, breathing apparatus etc)		
Function test of the fixed fire fighting installations		
Visual inspection of mooring, fenders and anchor chains on windlasses		
Visual inspection of lighting systems		
Check of bilge level and fire alarm system		
Check of corrosion protection (eg. hull anodic protection)		
Check of piping systems for leaks (eg. refrigerator plants, hydraulic systems etc)		
Function test of communication systems		
Check of batteries and maintenance of emergency generator		
Check of oil levels of header tanks and machinery sumps		
Other additional activities as per equipment manufacturers recommendations (please describe):		

5.7 Preservation methods

(list is representative but not limited to, tick as appropriate & give the descriptions of tanks, systems & equipment have to be preserved)

	Yes	No
Is a maintenance procedure during lay-up available & observed / followed up?		
Oil tanks and oil piping drainage and gas freeing		
Drainage of fire main to prevent freezing		
Removal or minimisation of fire sources and ignitable articles, which increase the risk of fire		
Protection against UV damage on deck (i.e. use of blinds in the accommodation and in crane cabs, protection of exposed rubber hoses on deck).		
Protection of any exposed / unpainted metal surface susceptible to corrosion on deck and in Engine Room (i.e. covered, greased or protected with an anti-corrosion lacquer).		
Are empty ballast and freshwater tanks fully dried, force vented and sealed?		
Are corrosion inhibitors added to the tanks and systems which are filled with water?		

Are storage tank vents on deck (i.e. lube oil, fuel oil) sealed against the infiltration of moisture?		
Have cooling water, seawater, freshwater and other systems & equipment not in use drained down, flushed and dried out?		
Are crankcase breathers to deck sealed off?		
Are silica gel bags placed within exhaust lines of electronic equipment?		
Have fuel injectors been removed?		
Are dehumidification equipment, heaters and desiccants used to maintain humidity levels?		
Are sealed off spaces in machinery compartment listed?		
Have ventilation intakes and exhausts that not in use been sealed off?		
Have pumps not in use been drained, flush & dried?		
Have piping systems not in use & relevant valves, in the interests of safety, been blanked & locked respectively?		
Have sewage treatment plants not in use cleaned, flushed and dried out?		
Has refrigerant been pumped down from AC and refrigeration systems?		
Are electronic equipment on board that measure, have precautions been taken against temperature, humidity and corrosion listed?		
Other additional preservation methods as per equipment manufacturers recommendations (please describe):		

5.8 Emergency Contact List

	Yes	**No**
Does the contact list contain Owner / Operator / Agent details?		
Does the contact list contain Harbour Authorities & Emergency Services details?		
Does the contact list contain Oil Pollution Emergency Services details?		
Does the contact list contain Emergency towing details?		
Does the contact list contain the details of P & I Club and Insurance Company?		
Does the contact list contain the Türk Loydu contact details?		

6. Remarks

Place/Date	Stamp	Name / Signature

Place/Date	Stamp	Name of Authorized Officers / Signature

TÜRK LOYDU

REQUEST FOR LAY UP DECLARATION

Particulars of Vessel

Name of Vessel:	
Signal Letters:	
Port of Registry:	
Gross Tonnage:	
Deadweight:	
Type of Ship:	
IMO Number:	
Owner:	
Manager:	

Lay-up Information

Date of Lay-up:	
Lay-up location:	
Water depth on location:	
Manning/Watchkeeping:	
Draught fwd:	
Mooring arrangement:	
The vessel is moored in block with:	
Name of Vessel on Port Side:	
Name of Vessel on Starboard Side:	

Documents to be submitted for review (For Information)

General arrangement plan (if not in TL class)	Mooring arrangement: • number of anchors and length of chain cables to be used. • proposed mooring pattern. • chart indicating bollard position, bollard capacity and individual distances between bollards ashore if applicable.
Ballasting and draught for the vessel in the proposed lay- up condition.	
Area chart with indication of vessel location.	
Expected statistical weather conditions.	
Chart showing depth curves and bottom soil conditions.	Emergency contingency plan.
Security arrangements and procedures.	Anti-pollution measures.
Proposed position and heading of vessel.	
Planned manning and watch-keeping.	

Place / Date:	**Authorized Signature (name/title)**

This form is to be filled out by the owner's representative and sent to Türk Loydu Head Office.