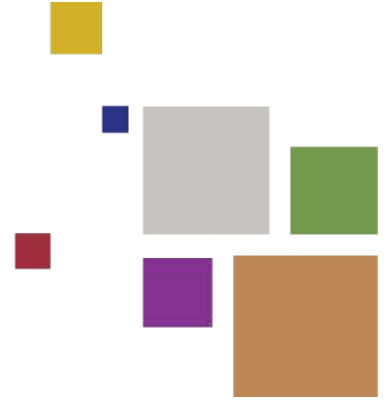




Life Environmentally Optimized



Emirates Classification Society, TASNEEF
Abu Dhabi, United Arab Emirates
P.O. Box 111155
www.tasneef.ae

INDEX

1.	GENERAL	1
2.	Tasneef LAY-UP SERVICES	1
3.	LAY-UP SITES	1
4.	MOORING ARRANGEMENTS	1
	4.1 General requirements	1
	4.2 Ships moored in groups.....	1
	4.3 Review of the mooring arrangements	1
5.	LAY-UP CONDITIONS	2
	5.1 Hot lay-up	2
	5.1.1 Hot lay-up for up to 1 month.....	2
	5.1.2 Hot lay-up for up to 3 months.....	2
	5.1.3 Hot lay-up for up to 12 months.....	2
	5.2 Cold lay-up	2
6.	CLASSIFICATION	2
7.	ISM and ISPS	2
	7.1 ISM 2	
	7.2 ISPS2	
8.	INSURANCE	3
9.	FLAG AND PORT AUTHORITIES	3
10.	SHIP SAFETY CONDITIONS	3
	10.1 Safe Manning	3
	10.2 Power availability.....	3
	10.3 Emergency power.....	3
	10.4 Fire protection and fire fighting.....	3
	10.5 Protection against explosion.....	3
	10.6 Bilge level alarm	4
	10.7 Safety equipment.....	4
11.	PRESERVATION MEASURES AND MAINTENANCE	4
	11.1 Exposed parts of the hull	4
	11.2 Internal spaces.....	4
	11.3 Accommodation areas	4
	11.4 Deck fitting	4
	11.5 Machinery.....	4
	11.5.1 Main turbines	5
	11.5.2 Reduction gears	5
	11.5.3 Auxiliary turbine-driven machinery	5
	11.5.4 Condensers and heat exchangers	5
	11.5.5 Auxiliary machinery.....	5
	11.5.6 Piping.....	5
	11.5.7 Diesel engines	5
	11.5.8 Shaft lines	5
	11.5.9 Electrical installations.....	5
	11.5.10 Steering gear.....	5
	11.5.11 Boilers	6
	11.5.12 Automation equipment.....	6
	11.6 Spares.....	6
12.	SURVEYS	6
	12.1 Laying-up survey	6
	12.2 Annual lay-up condition survey	6

INDEX

12.3	Re-commissioning survey	6
13.	RE-COMMISSIONING	7
	APPENDIX 1 – FLAG AND PORT AUTHORITIES REQUIREMENTS (referred to May 2009)	8
	APPENDIX 2: SUMMARY OF LAY-UP CONSIDERATIONS	12

1. GENERAL

The purpose of Tasneef lay-up guidelines is to support shipowners during the preparation of their vessels for the lay-up period and to provide guidance in order to maintain ships in safe conditions.

In particular these guidelines offer advices on the following point:

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

However, laid-up ships are subjected to national, port and classification requirements as well as insurers and other statutory requirements so these guidelines have to comply with all such requirements.

For Tasneef classed ships, the class requirements in Pt A, Ch 2, Sec 2, [8] apply.

2. Tasneef LAY-UP SERVICES

Tasneef can assist ship owners with ship lay-up providing a range of services including:

- General advisory services on lay-up (such as advise on planning lay-up, review of the mooring arrangements, etc.),
- Development or review of shipowners lay-up and maintenance specification and procedures,
- Periodic inspection during lay-up, and
- Supervision during re-commissioning.

3. LAY-UP SITES

Shipowners should consider the following recommendations in order to select suitable lay-up locations.

The site should be:

- sheltered from open sea, strong currents and waves,
- not exposed to whirling winds or turbulent tidal waves,
- not exposed to moving ice,
- clear of corrosive waste waters,
- provided with adequate ship/shore communications.

The relative humidity of the site should be carefully evaluated in the light of its consequences on coating and equipment (e.g. electrical installations).

In some cases Port Authorities may have their own requirements for lay-up sites, e.g. the Maritime Port Authority of Singapore (Appendix 1)

4. MOORING ARRANGEMENTS

Mooring arrangements should be able to maintain a safe mooring of the vessel or of group of vessels.

4.1 General requirements

The mooring arrangements should be in line with the followings requirements:

- ground holding should be adequate,

- vessels laid-up to buoys or anchored should be moored in such a way as to be prevented from swinging with normal wind and tidal changes,
- chain cables should not be subject to cross-contact or twisting and, in case of single ship mooring, stern anchorage should preferably be provided,
- laid-up ships should be in ballast condition in order to reduce the effects of wind. Due consideration should be given to the still water bending moment. For guidance, normal ballast draft should be roughly between 30% and 50% of the maximum draft.

4.2 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.

4.3 Review of the mooring arrangements

At the Shipowners' request the Society will provide the pre-assessment of the mooring arrangements verifying:

- the mooring arrangements are suitable for the chosen lay-up site,
- chains/cables strength.

For the purpose of the mooring arrangements review shipowner has to provide the Society with the following information:

- Mooring site:
 - geographical area,
 - characteristic of the sea bottom,
 - water depth,
 - preferential angular sectors (wind/tide/current) indicated according to statistical studies,
 - wave characteristics (amplitude and period).
- Geometry of mooring arrangements:
 - position and direction of the ship,
 - shore anchorage,
 - diagram showing mooring equipment (fore and aft),
 - angle between chain cables and ship centreline.
- Characteristics of mooring equipment:
 - maximum holding strength of each anchor,
 - type of mooring lines (chains, cable, sinkers, etc.),
 - length of each section,
 - weight of each section,
 - mechanical characteristics of each section (breaking load),
 - weight of sinkers.

5. LAY-UP CONDITIONS

The choice of lay-up condition will generally be determined by technical and commercial considerations, such as:

- the time the vessel will be in lay-up condition,
- the time that will be needed to reactivate the vessel,
- the owners drive to reduce overhead running costs,
- the relocation of the vessel to its next intended destination and
- the age of the vessel and the value of the vessel in respect to scrap value.

5.1 Hot lay-up

5.1.1 Hot lay-up for up to 1 month

This lay-up condition is suitable for 24 hours 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.

No return of insurance fee applies during the first 30 days of lay-up.

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

5.1.2 Hot lay-up for up to 3 months

For a lay-up period exceeding 30 days insurance lay-up return may apply.

5.1.3 Hot lay-up for up to 12 months

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

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.

Most port authorities, e.g. the Maritime Port Authority of Singapore (Appendix 1), will have specific requirements on the minimum manning of laid-up vessels.

5.2 Cold lay-up

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.

In this condition the ship manning is in line with emergency requirements to deal with fire, flooding, mooring and security watch.

Machinery is taken out of service with the exception of emergency power.

Power will be kept to a minimum level to ensure the emergency equipment and operation of windlass and mooring winch are operational.

The lay-up location is generally in remote site so the access to the ships is limited.

6. CLASSIFICATION

The class period continues unchanged during the lay-up period if the shipowner:

- notifies the Society on the ship lay-up,
- submits a lay-up maintenance program to the Society for approval.

The lay-up maintenance program should include:

- the safety conditions to be kept throughout the lay-up period,
- the measures taken to preserve the maintenance of the ship throughout the lay-up period,
- the survey requirements to be complied with for lay-up, maintenance of class in lay-up and re-commissioning.

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 re-commissioning 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.

7. ISM and ISPS

7.1 ISM

If the vessel is laid-up for more than 3 months the Safety Management Certificate (SMC) will be suspended and a re-activation audit should be performed upon the re-commissioning.

If a renewal or an intermediate verification audit falls due (but not overdue) during the period of out of service, or the date of re-activation falls within the window of one of these periodical audits, the re-activation audit will have the scope of periodical audit and the SMC will be endorsed accordingly.

If the vessel is laid-up for more than 12 months the SMC will become invalid.

An Interim verification audit will be required upon re-commissioning. The ship will be issued an Interim SMC.

These instructions should be applied in absence of any special requirements from the Flag Administration.

7.2 ISPS

If the International Ship Security Certificate (ISSC) is still valid when the ship is re-commissioned the shipowner

has to contact the Flag Administration for instruction on both the Ship Security Plan (SSP) and the Certificate.

If the International Ship Security Certificate (ISSC) is not valid when the ship is re-commissioned an SSP approval will be carried out and a Plan Approval Letter (PAL) will be issued. An Interim verification audit as required by ISPS Code will be carried out and an Interim ISSC will be issued.

These instructions should be applied in absence of any other requirements from the Flag Administration. In fact some Administrations, i.e. Italian Administration and St. Vincent and the Grenadines Administration (see Appendix 1), have their own requirements for the ISSC Certificate.

8. INSURANCE

Tasneef is not directly involved in insurance policies. Following recommendations are reported here for reference only.

Shipowner should keep the relevant P&I club informed about the changing status of the ship.

P&I club rules will vary but shipowner may expect to receive up to 50% premium return for a lay-up period of more than 30 days.

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.

The needed documentation to receive the lay-up premium return will vary from an insurance company to another. Anyway a shipowner declaration in which the lay-up period is indicated will be sufficient. Moreover some P&I Clubs may require to shipowner to fill in and signed a proper form.

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

For hull and machinery cover shipowner may choose between a laid-up return of the premium or, with the underwriter's agreement, cancel the trading policy and to substitute it with the a port risk policy only.

9. FLAG AND PORT AUTHORITIES

Tasneef is not directly involved in port authority requirements. Following recommendations are reported here for reference only.

Shipowner has to communicate to the Flag Administration that the ship is laid-up.

Most Administrations require an official notification with the date and the location of the ship lay-up, so that the status of lay-up can be registered.

Local port authorities should be contacted by the shipowner in advance to ascertain any specific requirements or regulations that may be imposed on the ship while moored or anchored at the chosen lay-up location because they may require confirmation of certain coverage (such as oil pollution, wreck removal, salvage costs, etc.) or mandate minimum manning level (see Appendix 1).

10. SHIP SAFETY CONDITIONS

10.1 Safe Manning

Watch personnel should be provided. The number of the watch personnel will depend on:

- the size of the ship,
- the lay-up site and mooring arrangements,
- the shore assistance available in case of fire,
- leakage or flooding,
- the maintenance required to provide adequate preservation.

Moreover, local Port Authorities, e.g. the Maritime Port Authority of Singapore or the St. Vincent and the Grenadines Flag Administration (Appendix 1), may have their own requirements for the number of crew onboard.

A permanent shore communication installation (radio, telephone) should also be available.

10.2 Power availability

Adequate power for operation of lighting, fire fighting, bilge pumping, mooring winches, radio communications, the needs of the crew remaining onboard, occasional energy supply needed for the machinery maintenance should be supplied, or readily available either from independent means on board the ship or from shore.

10.3 Emergency power

The emergency power sources (emergency generator and/or emergency air compressor) should be kept in working order and tested weekly.

10.4 Fire protection and fire fighting

All flammable or combustible materials should be removed or properly stored in order to prevent fire.

Fire alarm systems should be kept in working order and in operation. It should be arranged in suitable place in order to alert crew or watch personnel.

Fire fighting appliances such as foam or CO₂ fire-extinguishing systems (where installed) and hand extinguisher should be tested regularly and readily available.

Main fire pump and emergency fire pump should be regularly inspected and maintained in a fully working condition to ensure its reliable operation.

The electrical power supply should be available for running fire pumps.

10.5 Protection against explosion

All flammable materials, sludge, etc. should be removed from the ship's bilge, tank tops, double bottom tanks, engine room, pump rooms and similar spaces.

Cargo spaces and piping systems should be cleaned and ventilated to prevent gas from forming any pockets.

As an alternative to gas free, an inert gas system may be adopted for the cargo spaces of oil and chemical tankers.

A Gas-Free Certificate, if required by maritime or local port authority should be kept on board.

Hot work should not to be carried out during lay-up, unless special precautionary measures are taken.

10.6 Bilge level alarm

The bilge level alarm system should be operative. Valves in seawater systems which are not in operation should be closed.

The bilge pump should be kept ready for use.

10.7 Safety equipment

All the equipment usually recommended for the safety of the watch personnel should be provided, kept in working order and tested regularly.

The usual life-saving equipment such as life-rafts, life-buoys, breathing apparatus, oxygen masks and distress signals should be provided and made accessible.

Specific requirements of the flag Administration and of the local port authorities should usually be applied.

11. PRESERVATION MEASURES AND MAINTENANCE

Measures taken for preservation and maintenance during the lay-up period should be developed according to:

- Lay-up location,
- Lay-up duration,
- Manning level,
- ship type,
- hull equipment,
- machinery installations, and
- re-commissioning conditions.

A lay-up log-book, in which the maintenance work and tests carried out during the lay-up period should be entered with the corresponding dates, should be kept on board.

The nature and frequency of the maintenance, inspections and tests should also be defined in the lay-up log-book.

11.1 Exposed parts of the hull

Underwater parts of the hull should be protected against corrosion. It is advisable to provide an impressed current cathodic protection system where the quantity of corrosive waste discharge is particularly high. When such systems are provided they should be serviced and checked at regular intervals. The condition of sacrificial anodes should be evaluated at the annual lay-up condition surveys.

The coating of the hull above the waterline, exposed decks, access doors or covers on exposed decks, and hatch covers should be maintained in satisfactory condition.

All accesses leading to internal spaces should be kept closed.

All vent pipes and ventilation trunks should be kept closed.

11.2 Internal spaces

Cargo tanks and cargo holds should be emptied, cleaned and kept dry.

Ballast tanks should be kept either full or empty. When ballast spaces are kept filled with sea water, special care should be taken to keep such spaces topped up and protected against corrosion. When provided, sacrificial

anodes should be renewed when deemed necessary. The topping up should be regularly verified.

Chain lockers should be drained, cleaned and kept dry. Coating with bituminous paint is recommended.

Fuel oil and lubricating oil tanks should be drained regularly.

Lubricating oil analysis should be performed regularly and the oil renewed when the result is not satisfactory. Prior to being refilled, tanks should be cleaned.

Empty lubricating oil tanks should be cleaned and kept dry.

Fresh water or distilled water tanks should be kept full or empty. Empty tanks should be cleaned and kept dry. Where cement wash is used as a coating, this should be examined and, if necessary, repaired prior to filling.

The bilge and tank top in engine rooms should be cleaned and kept dry.

Hull sea inlet and outlet valves not in use should be kept closed.

11.3 Accommodation areas

Accommodation including navigating bridge and radio room should be protected against corrosion and other deterioration by means of suitable systems, e.g. by dehumidified atmosphere having a relative humidity below 60%. All doors and other accommodation openings should be kept closed except the ones used by lay-up staff.

Personnel living onboard should be accommodated in one area to allow the other areas to be dehumidified.

If the ship galley is being used by lay-up staff, the galley exhaust fans and grease trap should be regularly inspected and cleaned.

11.4 Deck fitting

The windlass, capstans and winches should be regularly greased and turned once a week.

All wire cables should be kept greased.

Visible parts of chains should be coal-tarred and examined regularly.

Chocks and hawse pipes should be coated with bituminous paint or equivalent if deemed necessary.

Cargo piping on deck should be drained, blown through if deemed necessary and kept dry by opening up drains.

All exposed fittings like hinges, screw-dogs, valve stems should be greased.

Any traces of salt water should be cleaned thoroughly by fresh water.

Electrical machinery and navigational equipment should be protected by watertight covers.

11.5 Machinery

The air temperature inside the machinery spaces should normally be kept above 0°C.

Humidity should be kept as low as possible and within acceptable limits.

Exposed mechanical parts of machinery should be greased.

All rotating machinery such as diesel engines, pumps, turbines, electric motors and generators should be turned

at regular intervals with a limited number of revolutions (the lubricating oil system should be put in operation or proper priming applied). Units should not be stopped in the same position as the previous one.

Bearing boxes should be emptied, cleaned and refilled with new oil.

11.5.1 Main turbines

Turbines should be kept dry.

All steam inlets should be sealed.

Expansion arrangements (sliding feet) should be suitably greased.

Electric heaters should be put inside the turbines. Heat drying should be made in open circuit, all valves shut and gland closing devices withdrawn.

Turbines should be turned weekly, the lubricating oil system being put in service. The shaft line should be stopped after turning an integer number of revolutions plus one quarter of a revolution.

11.5.2 Reduction gears

For large reduction gears, a fan activating the circulation of hot air in closed circuit with air hoses should be fitted (intake at lower part of casing and discharge at upper part).

11.5.3 Auxiliary turbine-driven machinery

Stators should be drained and kept dry.

Shaft sealing glands should be lubricated.

Lubricating oil should be analysed and renewed when deemed necessary. Prior to oil renewal, the oil casings should be cleaned.

Exhaust steam pipes should be kept dry.

Stuffing boxes should be dismantled.

Turbines should be turned weekly an integer number of revolutions plus one quarter of a revolution.

11.5.4 Condensers and heat exchangers

Condensers and heat exchangers should be drained and kept dry.

Desiccant should be placed in steam spaces.

Water sides should be washed with fresh water.

The condition of the zinc anodes should be periodically checked.

When tubes are fitted with plastic or fibre packing, water sides should be filled with alkaline distilled water.

When tubes are expanded or fitted with metal packing, water sides should be provided with desiccants and kept dry.

11.5.5 Auxiliary machinery

Air receivers should be drained, opened up and cleaned.

Pressure relief valves should be cleaned and slightly lubricated.

Air compressor crankcases should be drained, cleaned and refilled with clean oil. Cylinders and valves should be lubricated.

Coolers, air drains, air start lines, Hot-wells/return tanks, de-aerators, feed pumps and extraction pumps, air ejectors, main circulation pumps and evaporators should be drained and dried.

11.5.6 Piping

Pipes not in use should be drained and kept dry.

In case of lay-up in waters inducing fouling, the opportunity to blank overboard valves and sea chests should be evaluated.

11.5.7 Diesel engines

Daily tank fuel oil outlet pipes and all injection equipment should be filled with filtered gas oil.

Fresh water circuits should be filled with water mixed with rust inhibitors. Fresh water pH should be checked monthly.

Oil of hydraulic regulators should be replaced.

Sea water cooling pipes should be drained.

Crankcases should be provided with desiccant.

Starting valves should be lubricated (internally and externally).

Motor oil should be sprayed in cylinders and on all external parts liable to corrosion.

Cams and cylinders should be motor oil sprayed monthly.

Turbo-compressor/charger ball bearings should be oil sprayed and rotated for an integer number of revolutions plus one quarter of a revolution.

Engine air inlets and exhaust gas pipes should be sealed.

Scavenge spaces should be cleaned

Engines should be turned weekly.

11.5.8 Shaft lines

Shaft lines should be coated with grease.

Shaft bearing cooling pipes should be drained.

For sea water lubricated propeller shafts, the packing gland of the engine room stuffing box should be tightened.

For oil lubricated sterntubes, lubricating oil should be analysed and renewed if not satisfactory. The oil level in the tank should be verified regularly.

Propeller shaft lines should be rotated an integer number of revolutions plus one quarter of a revolution.

11.5.9 Electrical installations

Main and secondary switchboards, sub-feeder panels, fuse panels and starters should be made tight. Desiccant should be provided. Contacts of relays, breakers and switch-breakers should be coated with neutral Vaseline.

Bearings of generators should be cleaned of old grease and protected with new oil or grease.

Carbon brushes should be lifted off their commutations.

Electrical insulation of each item should be kept at a minimum 200000 Ω and general insulation should be not less than 50000 Ω . Local electric heating may be necessary to improve the level of insulation, particularly in the generators/ alternators and large motors.

A megger test should be performed regularly.

11.5.10 Steering gear

Exposed mechanical parts should be greased or oil sprayed.

For all electrical parts the same preservation measures given in the paragraph related to electrical installations should be taken.

It is recommended that the steering gear should be operated monthly.

11.5.11 Boilers

Smoke sides of boilers should be swept, washed clean with basic hot water and hot air dried.

Water and steam sides should preferably be preserved using the dry method, keeping the moisture at the lowest possible level, the ideal level being between 30% and 35%. It is advisable to ensure that no residual water remains to cause rapid corrosion. Drum doors are to be kept closed.

When the above dry condition can not be maintained, the boilers, super-heaters and economisers should be filled with water having a pH around 10,5. Hydrazine hydrate treatment of the water is preferable to reduce risks of corrosion caused by dissolved oxygen.

The water should be regularly analysed.

Boilers may also be preserved sealed with inert gas (nitrogen), provided that cocks and valves are tight and the installation allows an internal pressure of at least 0,05 bar should be maintained to prevent air penetration. Regular checks of the overpressure should be carried out and results recorded in the log-book.

Air heaters should be cleaned and kept dry.

Uptake, shell and fan outlets should be cleaned and kept closed with watertight hoods.

Burners should be dismantled, and atomisers greased.

Desiccant should be provided in furnaces where deemed necessary.

Expansion arrangements (sliding feet) should be suitably greased.

The internal condition of boilers should be checked every three months.

11.5.12 Automation equipment

Due to the large amount of computer processing equipment onboard modern ships, it is very important that preventative measures are taken into account in the lay-up phase in order to ensure:

- The equipment containing printed circuit boards are kept dry and free of moisture, and excessive temperatures are avoided.
- Precautions need taken with respect to the large amount of computer software onboard so that back-ups are available for reactivation should computers fail to boot up or restart on their own. This may take the form of keeping all programs and databases (for planned maintenance, etc) duplicated ashore.

All electronic equipments should be protected by the use of a dehumidified atmosphere.

11.6 Spares

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

12. SURVEYS

12.1 Laying-up survey

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.

Upon satisfactory completion of this survey, an endorsement to confirm that the ship has been placed in lay-up is entered on the Certificate of Classification, which is subsequently to be kept on board.

12.2 Annual lay-up condition survey

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.

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 log-book.

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

12.3 Re-commissioning survey

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 re-commissioning 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 CO₂ 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 of the Society 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 Society.

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

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.

13. RE-COMMISSIONING

When a ship is re-commissioned, the shipowner should notify the Society and make provisions for the ship to be submitted to the following surveys:

- an occasional survey prior to re-commissioning, the scope of which depends on the duration of the lay-up period,
- all periodical surveys which have been postponed.

Where the previous period of class expired before the re-commissioning and was extended a complete class renewal survey should be carried out prior to re-commissioning.

Those items which have been surveyed in compliance with the class renewal survey requirements during the 15 months preceding the re-commissioning may be credited. A new period of class is assigned from the completion of this class renewal survey.

APPENDIX 1 – FLAG AND PORT AUTHORITIES REQUIREMENTS (referred to May 2009)

1. Maritime Port Authority of Singapore

a) Documents needed to apply for lay-up the ship in the port area

Singapore Port Authority (Procedures to laying up a vessel in port) requires that shipowner applies for the “Permission to lay-up Vessel in the Port” and after the Port Master will issue a written permission to lay-up the vessel in the port.

In order to issue the lay-up permission the port authority requires a number of documents and certificates, such as:

- Safety construction certificate
- Safety equipment certificate
- Load line certificate
- IOPP certificate
- Certificate of Fitness (fit to lay-up and issued by a recognised classification society)
- SMC and DOC (ISM Code)
- ISCC (ISPS Code)
- Crew list
- Certificate of Freedom Flammable Vapour (only for tankers, bulk carriers and oil barges)
- Fire-fighting certificate
- P&I club Representative declaration to demonstrate to the port authority that the ship has a Port Risks cover

The lay-up in port permission is granted based on the expiry date of the submitted certificates. An extension of the lay-up period will be given if expired certificates will be renewed.

b) Lay-up Sites

Singapore Port Authority (Port Marine Circular n.7 of 2003) addresses two port areas to the ships lay-up.

c) Safe manning

Singapore Port Authority (Port Marine Circular n.2 of 2007) states that at least half the number of Officers, Engineers and crew or a minimum manning (in case of hot lay-up) or watchmen or Security Guards (in case of cold lay-up), as in the following table, must be onboard at all times (Table 1).

2. Elefsis Gulf Port Authority (original document)

According to the regulations basic requested documents formalities are:

1. Official representation
 - a) by a Shipping company official established in Greece and registered to the records of Greek Ministry of Mercantile Marine or
 - b) a Greek nationality person can be representative – manager of the vessel after issue of a power of attorney directly from the representative of owning company – according to the good standing. All

documents must be translated in Greek from Greek M.O.F.A.

2. All ship's documents must be valid.
 - a) Certificate of satisfactory conditions of the ship form the side of water tightness, durability, stability etc from authorized surveyor. For the beginning is acceptable a valid for a year, Ship Safety Construction Certificate.
 - b) Certificate of Safety Equipment/ fire extinguisher/ Signals etc.
 - c) Radio Certificate.
 - d) IOPP Certificate.
 - e) Document for watchmen agreements.
 - f) Ship's plan signed by the Master an Responsible of the lay-up person, on which must be appeared the tanks positions and quantity of bunkers, lube oils, remaining on board as also garbage and sewage positions and all tanks of ballast – cargo and the condition from the side of content.
 - g) Official declarations of Master and lay-up responsible person that all the above plan stated details are true and according to the relevant law.
 - h) Gas free certificate for tankers and bulk carriers or OBO when last cargo was dangerous.
 - i) Oil record book with all receipts and documentation for deliveries.
 - j) Insurance contract for coverage of expense of haul up ship in case of ship's foundering, settlement of damages to third parties under port diggings.
 - k) For ships under flags out of EU a letter of guarantee from a tugboat company for ship's shifting according to the Harbour Master order in case of necessity or Authorities request.
3. Official nomination of a person as “responsible of the lay-up”, attending ship's staying safety/security conditions and his acceptance
4. Agents' appointment and his acceptance.
5. All crew must be signed off/ repatriated.
6. Greek watchmen (in the field seafarers), takes the responsibility for the ship's security/ safety. (cost abt. 4.500 – 5.000 € per month).
7. Lay-up fees are to be paid to port authority (abt. 250 € per 15 days indivisible/ up to GT 10.000).
8. Lay-up permission fee 177 – 440 € annual renewal 45 – 177 €

With ship's arrival in group of port authority surveyors inspect the vessel at the presence of the owner's representatives and if all well, decided the lay-up of the vessel.

3. Italian Flag Administration

Italian Flag Administration (Circular n.21, Prot. N.86/17208, October 29th 2009) states that if the intermediate audit, needed to maintain valid the ISCC, is not performed within the 2nd and the 3rd year of the certificate validity, it will become not valid.

At the time of re-commissioning the ship, with a not valid ISCC for an intermediate audit lack, will be subjected to an initial audit as required by ISPS Code. However before the initial audit, an evaluation of the pertinence of SSP

(Ship Security Plan) will be performed taking into account the ship service.

A new ISSC certificate will be issued if the initial audit gives a positive result and the security plan is still compliant with all requirements.

An interim certificate will be issued if a period of application of the security measures is needed in order to deeply check the ship security plan.

An interim certificate will be issued if the SSP highlight the necessity to be made up-to-date. This will be done only after the verification of the ship onboard implementation of the security procedures.

4. St. Vincent and the Grenadines Maritime Administration: Lay-up and re-commissioning guidance (original document)

CIRCULAR N° GEN 003
Monaco, 25th February 2009

Owners, Operators and Managers are requested to notify the ship's Classification Society when a ship is put out of commission. Copy of the notification should be provided to this Administration.

Laid-up ships will be subject to additional port requirements. The guidance presented below is subject to compliance with these requirements.

Saint Vincent and the Grenadines Maritime Administration recommends that ships should be laid-up according to the ship's Classification Society Rules and Regulations.

The local requirements applicable to specific lay-up locations and mooring arrangements will be determined by the relevant local maritime authority. However, the owner should consider the prevailing factors and evaluate them before selecting lay-up locations.

Manning should be in line with local/port requirements and the owner's risk assessment. Owners should conduct a risk assessment for the expected hazardous events that may occur at any time of the day, during lay-up with regard to the planned manning level. The risk assessment should account for the following onboard situations:

- Fire;
- Flooding;
- Severe weather; and
- Security breach.

It is recommended that at least one engineer officer and one navigating officer be stationed on each vessel, unless vessels are laid-up in a group.

Saint Vincent and the Grenadines Maritime Administration requires evidence of local lay-up manning regulation, if any, and the owner's manning proposal based on the risk assessment. Saint Vincent and the Grenadines Maritime Administration will then issue a Minimum Safe Manning Certificate for the intended lay-up period.

As far as the International Safety Management (ISM) and International Ship and Port Facility Security (ISPS) audits

and certification are concerned, initial/ intermediate/ renewal audits should not be performed during lay-up.

If the vessel is laid-up for a period of up to six months Saint Vincent and the Grenadines Maritime Administration will suspend the vessel's Safety Management Certificate (SMC) and International Ship Security Certificate (ISSC). In the event that the vessel is later brought back into service, an additional/reactivation audit will be required for SMC and ISSC.

If the vessel is laid-up for a period exceeding six months the SMC and the ISSC will be withdrawn. In the event that the vessel is later brought back into service, an initial audit will be required in order to reinstate these certificates.

All safety equipment considered necessary for the safety of the vessel and the crew should be periodically examined and maintained in a satisfactory condition. A programme for regular maintenance, inspection, and periodic operation (or turning) of machinery should be prepared at the commencement of the lay-up.

The statutory spares should be kept on reasonable level. Removal of spares from a laid-up ship needs to be strictly recorded and controlled.

Vessel should be in possession of an updated chart of the lay-up area. The correct navigation shapes and lights for the condition of the ship should be provided.

Records of all the measures taken during the implementation of a lay-up programme should be maintained in order to ensure easy and orderly reactivation in future.

When a ship is re-commissioned, the Owners, Operators, Managers should notify the ship's Classification Society and make provisions for the ship to be submitted to the surveys required by the Rules and Regulations of the ship's Classification Society.

This Administration must be notified accordingly. The Ship's Classification Society should notify this Administration that the ship has been satisfactorily re-commissioned.

5. Liberia Flag Administration: Provisions for Vessel entering Lay-up Status due to financial crisis (original document)

MARINE OPERATIONS NOTE: 09/2008
4 November 2008

In reaction to the recent global economic crisis and the sudden downturn in certain freight markets, this Advisory is issued to help mitigate the burden and financial strain placed on ship-owning and financial institutions of the shipping industry. The Liberian Registry considers it essential to support the shipping industry during these uncertain times.

In the event that a ship owner or financial institution decides to place vessels in their possession out of service and register them in laid-up status for an unspecified time period, the Liberian Registry is prepared to enter into a commercial agreement allowing for the deferral of fees and the facilitation of operational measures to ensure safe and secure removal of the

vessel from service. These provisions are available to vessels currently in service, vessels currently under construction and vessels transferred from other Flag Administrations for the purpose of lay-up.

The following benefits will be made available to all eligible vessels:

- Initial Registration Fees;
- Registration Administrative Fee;
- Mortgage Recordation Fee;
- Amended Minimum Safe Manning Certificate Fee;
- Registration & Lay-up Certification Fees; and
- Annual Tonnage Taxes after the first full year of Registration in Lay-up Status

Deferral of the following annual and operational fees until vessel is removed from lay-up status or sold:

- Annual Tonnage Tax;
- Annual Marine Investigation and International Participation (MIIPS) Fees;
- Annual Marine Inspection Fee;
- Seafarer Documentation and Certification Fees for Initial Lay-up Crewmembers; and
- Operational Exemption, Dispensation and other Approval Fees

In order to further ease the financial and administrative burden on the owners placing vessels into lay-up status, guidelines and procedures have been developed by the Liberian Registry.

These guidelines address reduced Minimum Safe Manning Levels, Lay-up Procedures and the Deferral of inspection intervals. These Guidelines are available by contacting the Safety Department at safety@liscr.com.

Ship owners and financial institutions are invited to take advantage of the financial and operational benefits offered by these Provisions. For further information about Lay-up registration procedures and a copy of the model Lay-Up Agreement are available at any of our Regional offices or by contacting our Registration department at: +1 212 973 3434 or registrations@liscr.com.

6. Marshall Island Maritime Administration: Recommendations for ships under lay-up status (original document)

MARINE SAFETY ADVISORY NO. 37-08

22 December 2008

Recognizing the current global economic situation, and the resultant impact on shipping markets, many ship owners are now considering the prospect of temporarily taking ships out of service and placing them into lay-up. While many factors (such as lay-up location, duration, degree of maintenance, etc) are to be considered by the ship owner/operator when determining the ultimate course of action for lay-up, the Marshall Island Administration aims to provide support through recommendations given in this advisory.

When a decision has been made to lay-up a ship, preparations and the course of action should be developed in consultation with the Classification Society

of the ship, the relevant underwriters involved and appropriate local port authorities. Application can then be made to the Administration for registration in laid-up status, specifying the date of withdrawal from service and the exact location of the vessel's lay-up site. Manning levels should be adequate for maintaining the safety and security of the vessel, the duration of lay-up and applicable port State requirements, all of which should be detailed in the application when intending to establish a reduced manning level.

The Classification Society should be advised in order to determine the impact of lay-up on the Class and Statutory Survey status, requirements for maintaining Class and assignment of special Class notation in case special survey due dates are exceeded. Many Classification Societies have also established guidance documents and/or services to assist owners with preparations for lay-up and establishment of procedures for maintenance of the ship for the duration of the lay-up.

Additionally, the relevant hull and machinery underwriters and P&I club should be consulted for guidance prior to removal of the ship from service. Term of coverage will likely be affected by the change and club rules may vary with regard to the premiums, policy characteristics and additional inspections.

Lastly, the local port authorities should be contacted in advance to ascertain any specific requirements or regulations that may be imposed on the ship while moored or anchored at the lay-up location. For example, local port authorities may require confirmation of certain coverage (such as oil pollution, wreck removal, salvage costs, etc.), or mandate minimum manning levels.

Additional information relevant to ships in laid-up status is provided under section 1.10 of the Marshall Island Maritime Regulations (MI-108). Further guidance or assistance can also be provided by any of the Administration's offices worldwide.

MINIMUM MANNING REQUIREMENTS FOR VESSELS LAYING-UP IN PORT AT ANCHORAGE										
GRT	DUMB VESSEL									
Under 500	2 watchmen (if moored alongside another of the same class, 3 watchmen for both the vessels)									
Above 500	3 watchmen (vessel not permitted to lay-up alongside another vessel)									
GRT	TANKER/CHEMICAL CARRIER					OTHER MOTORISED VESSELS				
	Deck Officers*	Engrs	DK/GP Crew	ER/GP Crew	Total	Deck Officers*	Engrs	DK/GP Crew	ER/GP Crew	Total
Under 500	2	1	2	1	6	1	1	1	1	4
500 - 3000	2	1	3	1	7	1	1	2	1	5
3001 - 6000	2	2	3	1	8	2	1	2	1	6
6001 - 10000	2	2	4	1	9	2	1	3	1	7
10001 - 20000	2	2	4	2	10	2	1	3	2	8
20001 - 35000	2	2	5	2	11	2	1	4	2	9
35001 - 60000	2	2	5	3	12	2	2	4	2	10
60001 - 100000	2	2	6	3	13	2	2	5	2	11
100001 & above	2	2	6	4	14	2	2	5	3	12

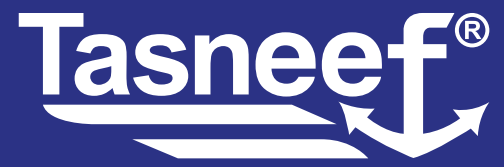
*Note: Deck Officers includes Master

Table 1: Example of the minimum manning as requirements for the ship lay-up condition. (Maritime Port Authority of Singapore)

APPENDIX 2: SUMMARY OF LAY-UP CONSIDERATIONS

	HOT LAY-UP			COLD LAY-UP (more than 1 year)
	up to 1 month	up to 3 months	up to 12 months	
Re-commissioning time	≈24 hours	≈24 hours	≈1 week	≈ 3 weeks -2 months (depending on the adopted maintenance and machinery preservation)
Suitable location	close to the potential cargo trade routes	close to the potential cargo trade routes	close to the potential cargo trade routes/ protected site	remote site (so access to the ship is to be limited)
Machinery	In operation	In operation or in stand-by	In operation or in stand-by	Shutting down
Class	As in operation	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	As in operation	Lay-up status notification		
Manning	As in operation or reduced to the Safe Manning Certificate level	Reduced to the Safe Manning Certificate level or below	May be reduced below the Safe Manning Certificate level	watch personnel only
ISM	As in operation	As in operation	Suspended after 3 months. Reactivation audit	Invalid. Interim certificate after the reactivation audit
ISPS	As in operation	Contact Flag administration for instruction	If it is still valid at reactivation contact Flag administration for instruction. If it is become invalid an interim audit will be carried out at the reactivation	Invalid. Interim certificate after reactivation audit
Insurance	As in operation	As in operation. Lay-up return may be applied for a lay-up period exceeding 30 days.	Lay-up return may be applied. Risk under P&I cover may be reduced (no cargo, no fuel, reduced crew)	

Table 2



Life Environmentally Optimized