West of England

Laid-up Vessel Reactivation Guide

Contents

1. Introduction

Photo courtesy of: Bush Marine Survey Ltd.

This guide offers general advice on successfully reactivating and returning a laid-up vessel safely back into service. It anticipates that the vessel will be reactivating from a period of lay-up that may be from 6 - 8 months to several years.

Given the wide range of circumstances under which a vessel can be laid-up, these notes are of a very general nature in order to be as widely applicable as possible.

2. Insurance, Classification and Statutory Requirements

If a vessel is anchored or moored whilst waiting for orders, with manning in compliance with or exceeding minimum safe manning requirements and regular running of machinery and systems, this does not constitute a lay-up and would not change the vessel's Classification or insurance status.

Whenever a vessel is placed into long term lay-up without cargo and with reduced crew, it then becomes inappropriate to maintain full Classification, P&I, and Hull and Machinery insurance. Each of these organisations can be approached in order to receive modified terms as appropriate to the circumstances, period and location of lay-up.

During subsequent reactivation, Classification will be actively involved in order to return the vessel to service in accordance with their rules. For insurers, there are a number of risks involved with the reactivation that make it prudent for them to place their own surveyor on board when a vessel has been laid-up for a prolonged period.

2.1 Protection and Indemnity Insurance

Normal expectation would be that whenever a vessel is reactivated, there might be some item of equipment that has stopped working or a fault has developed that may not be easily identified by the joining crew. Such a defect may be causative to a claim when the vessel has resumed trading. The requirement for a P&I reactivation survey is to therefore mitigate against the enhanced potential for claims during and immediately after reactivation.

Should an insured vessel resume trading after four or more consecutive calendar months in lay-up, owners are obliged to immediately inform the Club so that consideration can be given as to whether a condition survey will be required.

A vessel shall not normally be treated as laid-up if it had either crew members (other than crew necessary for its maintenance and safety) or cargo on board.

Appendix 1 contains the Laid-up Returns claim form that should be sent to Underwriters within six months of the policy year end.

Appendix 2 contains a copy of the Club's reactivation checklist which is based upon those already developed by the International Group of P&I Clubs.

2.2 Hull and Machinery Insurance

Appropriate advice on the individual requirements of each Hull and Machinery insurer can be obtained from the appropriate broker or insurer. It is, however, pertinent to consider that a reactivation survey will be required following any length of cold lay-up. As guidance we refer to the reactivation warranty (JH 2009/002) issued by the Joint Hull Committee at Lloyds:

"As a condition precedent to the liability of the Underwriters, the vessel shall not leave her lay-up berth under her own power or under tow following a lay-up period of more than 180 consecutive days or any period in cold lay-up, unless both the vessel's classification society and a surveyor approved by the Underwriters have examined the vessel and all repairs and other works required by the classification society and such surveyor have been carried out prior to the vessel leaving her lay-up berth."

It can be cost effective and reasonable that the same surveyor is used for both Hull and Machinery and P&I reactivation surveys as the items being inspected are very similar. The Club will, subject to our assessment of the competence of the proposed surveyor in P&I matters, consider any proposal from Members that a joint survey be made.

2. Insurance, Classification and Statutory Requirements (continued)

2.3 Class and Statutory Requirements

Ships laid-up are normally maintained in Class. Should a vessel remain laid-up beyond the due date for special survey the notation 'Laid-up Surveys Overdue' can be assigned and a minimum number of surveys agreed with the Society concerned. Complete suspension of Class will normally invoke a termination of insurance cover.

During the lay-up and process of reactivation, defects affecting the hull structure or machinery may become apparent. Such items should be reported to Class and repaired under their supervision.

During lay-up the minimum number of crew required on board should be maintained in accordance with Flag State as well as any local port authority requirements. At the commencement of lay-up a submission can be made to the Flag State to have the minimum safe manning requirement for the vessel re-evaluated considering that the vessel is laid-up. In such circumstances the Safe Manning Document will require re-issuing prior to the vessel resuming trading.

Prior to a ship resuming trading, all overdue Class and Statutory surveys will have to be completed.

The latest editions of statutory and Flag State Conventions and Codes, as well as applicable Resolutions and Circulars should be provided to the vessel.

3. Preparing for Reactivation

3.1 General

During lay-up the vessel will have had power provided either from a mother vessel in the raft, from the shore, or by its own means thus enabling periodic running or turning over of machinery and electrical systems. A caretaker crew will have been living on board, or on a nearby rafted unit conducting periodic checks of the anchoring arrangement, moorings, means of access, fire safety, flooding and security.

Reactivation can be a relatively straightforward process if the lay-up logs have been diligently written, and a state of readiness has been maintained by the caretaker crew, periodically starting up and running machinery as well as regularly powering up electrical systems and electronic equipment.

Due to the likelihood that different personnel will be involved during the lay-up and reactivation, it is important that all works during preparations for lay-up and during the lay-up period have been well documented in order that a straight forward, well-managed and safe reactivation can be achieved.

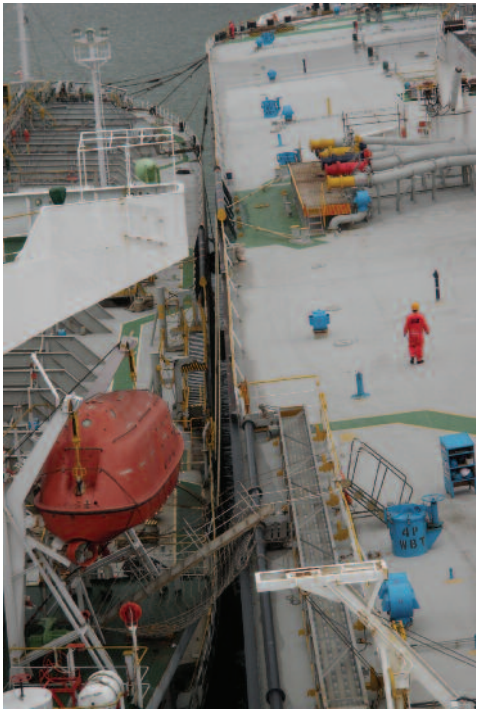

Photo courtesy of: Bush Marine Survey Ltd.

3. Preparing for Reactivation (continued)

3.2 Lay-up Logs

An important factor in achieving a problem free reactivation is the lay-up log.

The log will contain the location details of any blanking plates fitted into the vessel's piping systems and the scope of lay-up work carried out to the vessel's machinery.

Along with the log will also be associated documents such as dry-dock work lists and lay-up personnel hand over reports which should be reviewed.

If any planned maintenance work has been carried out during the lay-up period, the log will contain the details of such work together with recommendations for further work and spare gear required.

It is not unusual that during lay-up certain key spares or components will have been removed from the vessel in order to assist in the running of other vessels within the fleet. It is vitally important that a careful record is kept of any items removed, and that these are replaced in advance of the vessel resuming trading. It should be borne in mind that due to the nature of some of the parts and the lay-up location of the vessel, the lead time for delivery of replacements may be considerable.

Running hours for machinery should have been maintained throughout the lay-up period in order that appropriate spares for the maintenance of machinery items at reactivation can be planned by the joining crew and any attending technicians.

3.3 Planning

Having the same superintendent(s) together with the personnel who attended the laying-up of the vessel also attend for its reactivation is

the optimal arrangement. If this is not achievable, it is recommended that a requirement for suitably experienced officers be advanced to the crewing managers at the earliest opportunity.

Key personnel during the reactivation and subsequent return to trading are considered to be the Electrician, Electronics Engineer, Second Engineer and the Chief Officer.

Those who were with the vessel prior to lay-up should have submitted a list of spares required for further trading. The spares order request from that period should now be reviewed and considered alongside the list of equipment used during lay-up or removed ashore. This is particularly relevant in the case where laid-up ships may have supplied spares for ships still trading.

Small portable items of equipment essential for ensuring that work is performed safely during reactivation can sometimes go missing during a lay-up and be neglected during planning – such items may include a calibrated gas detector, multi-meters or approved safety torches and batteries. Prior to use it should be ensured that all gas detectors are in date for testing, servicing and calibration in line with the manufacturer's recommendations.

In some ports, the Harbour Master will require tankers to be issued with a gas free certificate prior to lay-up and for the vessel's gas free status to be maintained during the lay-up. A new gas free certificate may be required as the reactivation team join.

All accommodation hotel services should be confirmed in order prior to the arrival of the joining crew, and arrangements made for sufficient potable water and provisions to be provided to the vessel in advance.

During the trading voyages immediately prior to lay-up it may be that spares and maintenance levels have been run down for reasons of economy. The Chief Engineer's and Master's handover notes may offer

information helpful to the successful reactivation of the vessel that is not contained in the log.

The Classification Society should be consulted in order to confirm the works required to place the vessel back into trade without any overdue Class Recommendations or Conditions of Class. There may also have been regulatory changes that will entail the fitment of new machinery, equipment, additional steelwork or changes to the accommodation or safety equipment. It is advisable to arrange for the Class surveyor to attend the vessel at an early stage of the reactivation process so that there is plenty of time to address any issues that may be found.

3.4 Fuel and Lubricating Oil Systems

Deterioration of any of the machinery lubricating oils or hydraulic oils could lead to difficulty should they only come to light during the reactivation process. It is therefore prudent to conduct routine checks of all lubricating and hydraulic oils on-board and have confidence that all is in order before undertaking the reactivation.

Samples of lubricating oil should be obtained from each of the main and auxiliary engines and oil storage tanks. The samples should be sent to a suitable laboratory for full analysis, including for microbiological deterioration.

Oil samples should also be drawn from the various hydraulic systems and sent to a suitable laboratory for analysis.

Lubricating oil samples should be drawn from the stern tube system low point drain and submitted to a suitable laboratory for full analysis including microbiological deterioration tests.

The fuel oil and lubricating oil purifiers should be started during the early stages of reactivation serving to pre-heat machinery as well as cleaning the oil.

It is likely that additional disposable filters will be required during the reactivation process, therefore the vessel should be provided with an additional set.

3.5 Spare Gear and Equipment Lead Times

Depending on the age and origin of the equipment on board; it may take several months to obtain suitable spares. It is therefore prudent to conduct an inspection of the spare equipment remaining on board at the earliest opportunity prior to the implementation of the reactivation programme, so that the spare parts required can be ordered and received in ample time.

The lead time for the supply of new machinery, equipment, steel work and navigational or safety equipment that may be required due to regulatory changes should also be considered.

Cold ship lay-up locations are generally remote so there may be an issue with physically getting parts, equipment and technicians to the vessel. Potential difficulties and delays due to local customs formalities should also be considered.

3.6 Contracting Organisations

Some lay-up locations have access to ship repair resources.

Third party organisations that are scheduled to take part in reactivation work may have terms and conditions that could affect Members' cover. Members may therefore wish to refer any contract wording to the Managers prior to allowing work to commence.

As a minimum requirement, any employee of a shore based company working on board the vessel during reactivation should be given familiarisation training as required by the vessel's Safety Management

System (SMS). Risk assessments of all work packages to be carried out by contractors should be made by the vessel's personnel, and all applicable procedures and permits as required by the vessel's SMS, for example; procedures for lockout / tag out, enclosed space entry, working aloft, working overboard and hot-work procedures should be strictly followed.

Whenever there is any doubt about the physical or professional ability of a person designated to carry out work, regardless of the fact they may have been assigned to the task by a contractor, they should be questioned and, if necessary, the task should be suspended until an acceptable replacement is available.

We recommend that members review their SMS instructions regarding subcontracted work prior to any reactivation. Such instructions should include clear guidance regarding the responsibility that officers on board have to manage and control contractors safely.

3.7 Safety Management System (SMS)

All updates that have been made to the company's SMS during the time the vessel has been laid-up should be provided to the vessel at

Photo courtesy of: Bush Marine Survey Ltd.

the time of reactivation, this should include new circulars including those issued by the International Maritime Organisation (IMO), bulletins or similar publications which are managed within the ambit of the SMS.

A copy of the company's Document of Compliance with the latest endorsement by the Recognised Organisation should be provided to the vessel.

An internal ISM audit should be carried out just prior to the vessel resuming trading.

4. Reactivation

4.1 Safety of Life

Upon joining the vessel and prior to commencing work, all joining crew should be given familiarisation training in accordance with SMS requirements. A meeting should subsequently be held to brief all personnel on the status of the reactivation and the work plan, SMS safety procedures, checklists, and the risk assessment methodology. It is recommended that it is chaired by the reactivation superintendent and that the attendees include as many of those on board as possible, including shore contractors.

Methods of escaping from the ship by lifeboats or by gangway to adjacent vessels or shore should be confirmed and checked for safe access.

Any maintenance and upgrading of lifeboats, rescue boats, davits, falls and associated fixtures and fittings should be completed, surveyed and tested in line with statutory requirements prior to use. Special attention should be paid to perishable items made of rubber, such as hoses, pump impellers and pump diaphragms. Once all crewmembers are onboard a lifeboat drill should be conducted. Davit launched lifeboats should be lowered to the embarkation deck, and if possible manoeuvred in the water with their assigned operating crew. Ideally lifeboats and rescue boats should be lowered to the water and recovered with no crew onboard prior to be launched with their operating crew. Freefall lifeboats, where practicable, should be launched with their assigned operating crew and manoeuvred in the water. If the vessel is rafted this drill should be undertaken at the earliest available opportunity.

Warning notices should be placed on accesses advising of the dangers of entering enclosed spaces. Ballast, fuel, cargo and potable water tanks, cargo spaces, chains lockers, duct keels and cofferdams, etc. should only be entered in accordance with the enclosed space entry procedures contained in the vessel's SMS. It is recommended that an enclosed space entry and rescue drill be conducted at the

beginning of reactivation, so that all rescue equipment can be checked and tested, and personnel can familiarise themselves with their rescue duties.

All Life-Saving Appliances (LSA) should be checked and tested and made ready for use. It is expected that most items usually stowed on deck will have been stored for the duration of the lay-up. If this has not been the case the LSA - in particular cordage, retro-reflective tape and markings - should be closely inspected for degradation by the elements. All equipment that may time-expire, such as GMDSS handheld radio lithium batteries, lifejacket lights, line throwing apparatus component parts, pyrotechnics, hydrostatic releases and lifeboat provisions, should be checked and replaced where necessary. It may be necessary for some LSA such as liferafts to be sent ashore for servicing, in which case suitable substitute equipment should be provided if the vessel is not alongside a berth.

Any new regulatory requirements concerning the provision or capabilities of LSA should be complied with.

4.2 Safety in the Event of Fire

If the vessel has been laid-up alongside, the phone numbers of the local fire department should be available and displayed in the ship's office, on the bridge and in the engine control room.

As ventilation is returned to the vessel's spaces, fire dampers should be confirmed freely operable and greased.

CO2 bottles and releases should, if necessary, be serviced and if required bottle levels should be checked. Delivery lines should be confirmed clear by blowing through with compressed air.

Remote closing devices for fuel and lubricating oil tanks should all be tested together with the engine room skylight remote closure. All remote fan and pump shut downs should be tested and confirmed in good working order.

The emergency fire pump and emergency power supply system should be serviced as required and tested whilst on load for a number of hours in order to ensure efficient and reliable operation.

In any event, it is likely that the entire range of firefighting equipment will need to be serviced, tested and certified by a specialised shore contractor. This should be undertaken at the earliest opportunity, and where firefighting appliances are removed ashore for service, suitable replacements should be substituted in place.

Should the vessel be rafted with others arrangements should be in place for the vessel to receive firewater from adjacent units to pressurise the fire main. Joining crew should familiarise themselves with such arrangements and these should be tested to ensure they are working as required.

It is recommended that a fire drill be conducted at the earliest opportunity, so as to familiarise the crew with the equipment on board, including the use of the emergency fire pump. As part of the drill, where the vessel is rafted the procedure for releasing the vessel from others in the raft should be exercised.

4.3 Bridge Navigation and Communication Equipment

It is advisable to test all of the vessel's navigational and communications systems during the pre-reactivation inspection. Should any faults be found, the attendance of service personnel and provision of spare parts can be arranged. The provision of equipment required by new regulations should be sourced well in advance and their fitting by qualified technicians arranged.

Tests should include main and back-up control systems for rudders, main engines, controllable pitch propellers and bow and stern thrusters. These should be tested from both bridge and remote locations, such as on the bridge wings.

Photo courtesy of: Bush Marine Survey Ltd.

The fire alarm panel should be confirmed operational and all fire detector heads tested.

EPIRBs should be tested in line with statutory requirements, and batteries and disposable hydrostatic releases checked to ensure they have not time expired. Once in order the EPIRB should be fitted to its mount.

SARTs should be tested and batteries checked to ensure they have not time expired.

During lay-up the vessel will usually only require a paper chart of the lay-up area. All remaining paper chart folios should have been landed ashore. At reactivation, the entire paper chart portfolio should be sent to a chart correction agent for updating prior to being returned to the vessel. Similarly, electronic chart folios should be corrected up to date. Outdated nautical publications should be replaced by new editions and / or corrected as appropriate. No outdated or uncorrected navigation

charts or publications should be retained on board. Arrangements should be put in place so that the vessel resumes receiving Weekly Admiralty Notices to Mariners and / or electronic chart corrections as necessary.

The magnetic compasses should be swung, corrected and a new deviation card issued at the earliest opportunity.

4.4 Accommodation Areas

On vessels that have been laid-up for some time the warning notices, stencilled instructions and IMO safety signage may have become faded or be missing. These should be checked and refreshed or renewed where necessary.

Cabins or corridors on main deck level may have been used for storage or office accommodation during the lay-up. Any such stores should be redistributed to store rooms ready for the vessel's resumption of trading by the joining crew and the accommodation and cabins returned to a habitable condition.

The ship's hospital should be cleaned and made ready for immediate use. The stretcher should be confirmed readily available and the medical stores should be brought up to date in accordance with the latest applicable medical stores requirements and certified by an attending chemist. Oxygen resuscitators should be checked, tested including hydrostatic testing of the cylinder(s) where necessary and filled ready for use.

If there is any evidence of rodent or insect infestation the attendance of a pest control company should be arranged well in advance of the attendance of the Port Health Authorities to issue Ship Sanitation Control Certification.

Depending on the duration of lay-up, the potable water tanks may require inspecting, cleaning, recoating and disinfection. The entire distribution system from the machinery space to the furthest outlet may also require super-chlorination with fresh water. Shower heads and fresh water hoses may also require super-chlorination.

4.5 Moorings Arrangements and Fenders

All mooring ropes, both those in use and spares, should be checked for excessive chaffing, wear and degradation and replaced where necessary. Ropes taken from the spare supply should be replaced.

Mooring windlasses and winches will need to be thoroughly inspected and function tested. The bedplates and foundations should be examined to confirm that there is no excessive wastage and that save-alls are intact.

The ability for quick release or cutting of moorings in the event of emergency should be confirmed.

Vessels laid-up in rafts may have been ballasted to give similar freeboards in order to facilitate easier access and mooring. As the vessel is reactivated and ballasting operations are taking place, mooring arrangements and fendering systems should be checked for adequacy of available movement between the hull of the vessel being reactivated and those adjacent or any berth that the vessel may be alongside.

Additionally, rafted vessels may have incurred ranging damage to handrails or have had modifications to handrails to allow gangway access. All such modifications should be made good during the reactivation period.

Lighting arrangements around the mooring areas should be confirmed as being in good order.

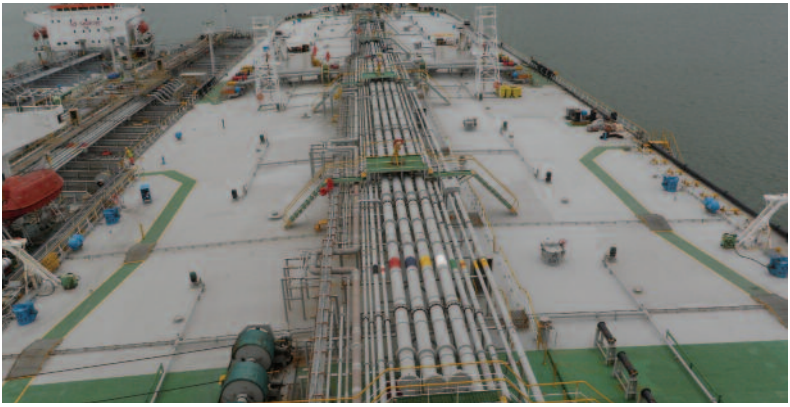

Photo courtesy of: Bush Marine Survey Ltd.

4.6 Main Deck

The condition of deck walkways, external ladders and gratings should be confirmed as structurally sound and without any trip hazards.

Access ladders and gangways rigged to allow access to adjacent vessels and their safety nets may not have been fully inspected for some time and should therefore be checked for function and the condition of the components. Accommodation ladders and gangways that have been stowed for the duration of the lay-up should be deployed and checked for operation and condition. The ready availability of lifebuoys at any point of personnel transfer and a fire plan and crew list at the main entry point should be confirmed.

Pilot ladders and associated manropes and fixtures and fittings should be thoroughly inspected and any damaged or degraded parts replaced in line with SOLAS requirements.

The possibility of tank overflow on deck will be greater during reactivation operations and consequently prior to any internal transfer of pollutants on board the vessel the location of scupper plugs and

tank vent save-all plugs should be confirmed and these refitted where necessary. Oil spill equipment should be confirmed in good order and readily available for deployment. Portable pumps that could be used to deal with an inadvertent deck spill should be tested and be made readily available with suitable hoses.

Cargo cranes and any other lifting appliances should have been laid-up in accordance with manufacturers' guidelines and this should be checked when returning them to service. Proof load test certificates for lifting appliances may have expired and if required, load testing followed by a thorough visual inspection should be performed. If load testing is not required, ensure that annual lifting appliance visual inspections are in date. Particular attention should be paid to the condition of any section of wire that has been left turned over a sheave or block and exposed to the elements. Greasing should be carried out using suitable lubricants and ideally the lifting appliances should be fully worked to ensure all bearings, wires, and sheaves are adequately coated prior to being used under load. Where lifting appliances have not been used for some time, it may be necessary to replace hoist and luffing wires, depending on whether the company's crane wire replacement procedures dictate a maximum period of fitment and / or their condition has deteriorated. All lifting appliances should be fully tested to ensure they are working satisfactorily prior to resuming trading.

4.7 Cargo Spaces

4.7.1 Dry Cargo

It should be confirmed that cargo spaces have a safe atmosphere prior to entry.

The ladders, platforms and safety rails to allow safe entry into any cargo space should be inspected and repairs carried out where

necessary. Lighting arrangements should be checked and brought back into service where necessary.

Cargo spaces should be examined for areas of wastage and structural defects and confirmed suitable to carry intended cargos. Particular attention should be paid to any pipework, such as double bottom vent pipes and sounding pipes running through the hold.

Should it be found that doublers or any other temporary repairs are fitted to tank boundaries or bulkheads in the cargo holds, these should be removed and permanent repair made to the satisfaction of Class.

Hatchcovers and operating systems should be recommissioned with particular attention paid to any leaking hydraulic seals, missing, worn or badly adjusted retaining cleats and hatch cover rubber seal arrangements that may have deteriorated. Hatch covers will be tested by ultrasonic inspection as part of any P&I reactivation survey, therefore any work carried out during reactivation should be of a standard to allow successful testing. Similarly, cargo hold vents and access hatches should be inspected, and confirmed as weathertight.

Bulk carrier cargo hold water ingress alarms should be individually tested and confirmed to be functioning satisfactorily.

Cargo hold bilge wells should be clean and individually tested for suction and correct functioning of the non-return valve to prevent backflow into the hold. Strum boxes and bilge plates should be inspected to confirm they are clear of debris and undamaged. Bilge high level alarms should be tested and proved operational.

Reefer vessels should be subject to cooling down trials and confirmation that the physical condition of ventilation gratings is in order.

Lashing arrangements, both fixed and portable, should be inspected to ensure they are in satisfactory condition, and there are sufficient quantities of lashings available for use.

Cargo spaces should be free of debris, and in the case of bulk carriers, the holds should be cleaned to the cleanliness standard stipulated by cargo interests for the first cargo.

4.7.2 Liquid Cargo

It should be confirmed that cargo tanks have a safe atmosphere prior to entry.

Cargo tank internals, including means of tank access, should be examined for excessive corrosion and damage. Any loose scale and debris should be removed. Coatings should be made good where possible.

All heating coils should be blown through with steam or air with drains open and then examined whilst being tested at full working pressure and temperature.

Where cathodic protection anodes are fitted, they should be examined to verify that they have sufficient anode section remaining to provide continued tank protection.

Fixed tank cleaning machines should be function tested.

As far as practicable, cargo tanks should be hydrostatically stagger tested in order to confirm the integrity of all boundaries.

The inert or nitrogen gas system, together with the related equipment and instrumentation, should be tested - preferably using inert / hydrogen gas - to prove satisfactory operation of the system, its alarms and safety devices.

Cargo pump rooms, piping and valves should be examined. All cargo handling machinery, including cargo pumps, compressors and heat exchangers, in conjunction with all cargo handling and monitoring automation should be tested and proved operational. Before starting

any cargo pump for recommissioning purposes it is advisable to ensure that the shaft is free to turn.

Cargo pump room bilge high level alarms, ventilation fans and remote shut downs should be tested to confirm operation. Electrical and lighting systems in pump rooms should be carefully checked for intrinsic safety.

Local and remote tank gauging systems and high level alarms should be confirmed in order.

Cargo tank lids, venting arrangements, P/V valves and flame screens should be checked to ensure they are in satisfactory condition.

Oil Discharge Monitoring Equipment (ODME) should be checked and confirmed to be operating correctly.

In the case of LPG and LNG vessels, particular attention should be paid to inspecting the void spaces and stools whilst the vessel is in a gas free condition.

4.8 Hull and Openings

All underwater areas of the hull, including propellers, rudders and thruster grating should be checked by dive survey for damage, to ensure they are clear of debris and that gratings are secure. Sea suctions in particular should be checked to ensure that all gratings are clear.

Paint systems in way of the topsides and vertical bottom should be reviewed; ideally when the vessel is suitably de-ballasted. Marine growth should be cleaned from the underwater areas of the hull, rudder and propeller. Where draught, loadline or other marks painted on the hull are difficult to read these should be repainted.

Cathodic protection systems by anode or by impressed current should

Photo courtesy of: Bush Marine Survey Ltd.

be examined to verify that they have sufficient anode section remaining or are operating correctly.

4.9 Ballast Tanks and Enclosed Spaces

Incidents involving serious injury and death as a result of personnel entering enclosed spaces containing insufficient oxygen continue to occur despite numerous industry initiatives. As steel corrodes, oxygen depletion of the enclosed space will occur. Toxic and flammable gases, as well as oxygen depletion may also be encountered where fuel or cargo residue are still present in tanks or cargo spaces. All enclosed space entries should follow the procedures laid down in the vessel's SMS. Consideration should also be given to the possibility of atmospheric deficiencies being present in adjacent connected spaces, such as deck houses.

Warning notices should be placed on accesses to enclosed spaces advising of the potential dangers of entry. Ballast, fuel, cargo and potable water tanks, cargo spaces, chains lockers, duct keels and cofferdams, etc. should only be entered using the enclosed space entry procedures detailed in the vessel's SMS.

No repairs should be carried out in cargo or fuel tanks, pump rooms etc., unless the atmosphere has been tested and found to be free of hydrocarbon and toxic gases. In some jurisdictions it may be necessary for an approved chemist to attend the vessel and issue gas free certification prior to work commencing.

Ballast tanks should be either completely full or empty and dry for the lay-up duration. Where ballast tanks have been filled with water containing a corrosion inhibitor, the manufacturer's instruction regarding the flushing of the tanks should be followed. Discharge within a sheltered anchorage should be avoided and local and MARPOL discharge criteria should be complied with.

Where ballast tanks have been empty during the period of lay-up, they should be inspected for leakage from any adjacent full tanks, particularly fuel tanks, and then hydrostatically pressure tested to check their integrity. Ideally ballast tanks should be overflowed to deck; however, this should only be carried out when it has been verified as being permitted by the local environmental authorities.

Where the vessel is fitted with a duct keel, the entire length should be inspected and the correct operation of any remote operated valves sighted. Steam leaks may occur as the heating coils are reactivated and these should be addressed.

All tanks that have been left open during the lay-up period should be thoroughly inspected for debris / tools, etc. prior to the manhole covers being refitted. It should be ensured that the manhole sealing area is clean, a new gasket is fitted and all nuts are fitted and properly tightened.

4.10 Bunker Tanks and Pumping Systems

All bunker tanks should be carefully sounded and all valve line ups checked prior to any pumping or bunkering operation during the reactivation. Dependent upon the age of the vessel it may be prudent

to pressure test the bunkering line and confirm calibration of the pressure gauge prior to commencing any bunkering operations.

The overflow tank should be confirmed empty prior to commencing any fuel oil transfer or bunkering operation. It is recommended that even minor transfer operations are initially carried out under the direct supervision of the Chief Engineer during the hours of daylight.

Corrosion between high use ballast tanks and bunker tanks can be a reoccurring problem on older ships. Therefore, whenever such tanks are empty, the opportunity should be taken to carefully inspect and hydro test the bulkhead between such tanks.

All fuel oil transfer pump filters should be dismantled and cleaned.

Bunker fuel oil may stratify and particulates come out of suspension during lay-up. Should fuel have remained in the settling and service tanks for any period during lay-up the fuel should be drained back into the double bottom tanks and the settling and service tanks opened and cleaned of any sludge or residue.

During lay-up new regulations may have come into force concerning the sulphur content of fuel consumed on vessels. It should therefore be ensured that any fuel onboard which is to be burned complies with regulatory requirements, including any local requirements which may have recently been enacted.

4.11 Electrical and Electronic Equipment

At the earliest opportunity it should be ensured that all lighting - both main and emergency - is working satisfactorily, and lamps and fittings replaced where necessary.

A large amount of electronic equipment and instrumentation will exist around the vessel in very diverse areas - some of which may have become obsolete or due to its age spares could be difficult to source. Accordingly great care should have been taken during lay-up to

preserve such items and this care should extend to returning such equipment to service during reactivation.

The humidity control and lay-up procedures on the bridge and in engine control room will in all probability have been effective, therefore the electrical and electronic control equipment in these areas should return to service without many problems. Special attention may need to be paid however to isolated electrical panels having electronic logic circuits incorporated, such as boiler control panels that are sited adjacent to the boiler and purifier control equipment in the purifier room.

Circuits connected to the main and emergency switchboards should be isolated in turn and their insulation resistance to earth measured and recorded. Low readings to earth and any readings substantially lower than those recorded at commencement of lay-up should be investigated and cleared.

The main bus bars and connections should be checked for condition. If the facility for infrared survey of the switchboard is available then this should be considered.

A megger test of all electrical motors, along with confirmation that the motor shaft is free to turn, should be carried out prior to starting any pumps, winches or ventilation fans. Any electrical equipment removed from deck during the lay-up period due to low megger readings should be reinstated after being made good and readings restored.

Electrical circuits, starters, motor windings and electronic control systems should be proven prior to being in a position to run up any mechanical equipment.

All alarms, trips and automatic pump change over switches covering the main engine, auxiliaries and steering gear should be calibrated and tested.

All emergency stops for machinery, pumps and fans should be tested to ensure satisfactory operation.

Electrical cables and equipment in hazardous areas (e.g. pump rooms) should be specially examined to ensure that they remain efficient.

The overload and reverse current trips of all generator circuit breakers should be checked for satisfactory operation.

All batteries used for emergency power and the backup of computer systems should be checked by load testing and renewed as required.

Photo courtesy of: Bush Marine Survey Ltd.

4.12 Engine Room

The report from lay-up together with log books kept during lay-up should be examined and, based on their contents, a plan should be formulated containing the measures necessary to restore the engine room machinery and systems to full working order. As some calendar-based planned maintenance tasks will most likely be overdue the planned maintenance system's requirements should be checked, ideally with Class, and works planned and performed as necessary.

Dehumidification records may be available for the lay-up period and these should be reviewed. Any areas of the engine room that have condensation markings or where the records indicate that dehumidification has not been effective will require more care.

4. Reactivation (continued)

All covers on exhausts at the top of the funnel and elsewhere should be removed at the beginning of the reactivation process.

Engine room / accommodation elevators should not be used until their operation and certification is confirmed.

Any powered or manual watertight doors in the engine room or elsewhere should be subjected to a full function test with visual and audible alarms confirmed as operational.

The operation of the engine room bilge pumping systems, space in the bilge tank and bilge alarms should all be checked by the joining crew prior to beginning reactivation work on any engine room system or machinery. Local regulations regarding the discharge of sludge ashore or to a tanker should be complied with. The Oily Water Separator and discharge monitor, including alarms, should be confirmed in order.

All areas below the engine floor plates and bilges should be checked for the presence of oily rags, and other flammable debris or oil soaked lagging that could ignite should weld sparks or hot metal bounce and drop down from upper engine room areas during any hot work undertaken during the reactivation period.

Various manhole doors may have been left open for drying of salt water cooled coolers and equipment in the engine room during the time in lay-up. These should be closed up with new anodes fitted as necessary. Seals should then be proven before any further work is carried out.

Low and high sea suction main sea water inlet valves should be operated to ensure they are functioning correctly. Their valve indicators should be confirmed to be operating correctly.

Any blanks that have been fitted in pumping systems for lay-up purposes should be removed, similarly valves that have been removed should be replaced and pumping systems should be function tested and proved efficient and free from leakage. Any pipe work systems

that were drained for the lay-up should be refilled and airlocks bled off.

All lubricating oil, fuel oil and hydraulic oil filters should be dismantled and cleaned.

All pipe systems should be checked, particularly under the engine room floor plates, for the possibility of pipe clips, cement boxes and other temporary repairs. Where temporary repairs are found these should be permanently rectified.

All alarms, shut downs and automatic pump change overs covering the main engine, auxiliaries and steering gear should be tested.

Any electrical or pneumatic systems involving the remote operation of ballast, fuel oil and lubricating oil pumps and valves should be tested.

The danger that engine room tanks that have contained fuel oil or waste oil for a considerable period could have an atmosphere rich in hydrogen sulphide should be considered, and the tank atmosphere carefully tested to ensure it is safe for activities in the vicinity of the tank (such as taking soundings) and in the vicinity of the tank vent.

Strict instruction should be given to each engine room crew member in relation to the company's policy relating to MARPOL compliance and the operation of the Oil Water Separator, and suitable warning signs confirmed as being in place.

All applicable activities undertaken during the reactivation period and thereafter should be accurately recorded in the Oil Record Book.

4.13 Diesel Main Engine

The current advice from engine manufactures is for main engine crankcase spaces to be closed up and dehumidified during lay-up. However, the crankcases may have been left open during lay-up.

Either way, a full crankcase inspection should be carried out before replacing the crankcase doors to check the condition and security of rotating parts, also to ensure that no foreign objects may have inadvertently been left behind and that there is no condensation damage or bacterial growth within the engine and sump.

Lubricating filters should be opened and cleaned. At an early point during the reactivation, the lubricating oil purifier should be started.

Cooling water for pistons and jackets should be circulated and a close examination carried out to ensure that there is no leakage due to deterioration of rubber sealing rings.

Fuel injection valves should be cleaned, adjusted and refitted. The engine fuel system should be circulated to ensure there is no leakage. Starting air valves should be removed and tested.

4.14 Auxiliary Diesel Engines

Auxiliary engines may have already been in need of overhaul at the time of going into lay-up if they had run at low loads for many months during any period of interim hot lay-up without appropriate maintenance being carried out or running hour logs properly kept. It is therefore important that these items of machinery are carefully examined as part of the reactivation process.

If the auxiliary engines have not been run during the lay-up period, a sample of main bearings and connecting rod bottom end bearings should be opened for examination. Further examination will be dependent upon the condition found.

Prior to conducting any trials on load the crankcase should be examined and all retaining bolts should be hammer tested to confirm they are not loose. Lubricating oil filters should be opened up and cleaned prior to any engine tests.

Auxiliary engines should then be run and warmed through, culminating with a period of at least one hour being run at as near as possible to rated capacity and during which the alarms, trips and shut downs should be tested and calibrated whilst the engine is operating at normal running temperatures.

4.15 Boilers and Economisers

Whilst the vessel has been laid-up, regulatory changes may have been introduced concerning the maximum sulphur content of fuel oil that can be consumed onboard. As the vessel comes out of lay-up, modifications to boiler burners may have to be made in order to fulfil the requirements of current legislation.

Feed water should be sample tested and proved in good condition prior to use. Feed water test and treatment chemicals, which normally have a short storage life, should be tested and proved free of deterioration or renewed.

In instances where desiccants have been placed within the water spaces, these should be removed and a visual examination carried out before closing up drums and headers.

In all cases an examination should be carried out on the fire side of the boiler.

All burners should be dismantled and cleaned. Fuel oil should be circulated through the oil burning system and glands and joints checked for leakage.

All safety measures and emergency shut offs should be checked and tested.

Care should be taken to proceed slowly when initially raising steam in boilers, with particular attention being paid to manhole door and handhold door fastenings, glands and bolted joints as temperatures increase.

4.16 Steam Plant

All steam lines should be adequately drained and warmed through prior to subjecting them to full steam pressure. Pressure should be increased slowly in lines to minimise water hammer.

Special attention should be paid to condensers that have tube ends secured by fibre packing to ensure that they remain free of leakage on reactivation, particularly after a long period of dehumidification.

Should there be turbo alternators, the bearing journals should be examined and the oil charge checked. Purification of the lubricating oil should commence at the initial stages of reactivation but not circulated through the main system until a favourable analysis report has been received.

Steam turbo driven alternators, feed pumps, cargo and ballast pumps etc. should be function tested, together with their overspeed trips, governors and other safety devices, prior to being placed in service.

All communication, public address and talkback systems, in particular the communication system linking the bridge and engine room, as well as bridge and steering compartment should be verified to be fully operational prior to any trials.

If at all possible, ahead and astern starts should be made and the engine warmed through at low revolutions prior to releasing the moorings.

Sea trials will normally be required by the Classification Society if the vessel has been in lay-up for any significant period of time. During sea trials, it should not be overlooked that the main engine manoeuvring and steering gear should be operated from their respective emergency positions as well as from the bridge.

5. Final Commissioning

During the final stages of the reactivation, the attending P&I surveyor will conduct an inspection based upon the West of England condition survey checklist which can be downloaded from our website. In addition to which, the surveyor will also complete the supplementary reactivation checklist in Appendix 2 of this report.

Photo courtesy of: Bush Marine Survey Ltd.

Appendix 1 – Laid-Up Returns - Class 1 Protection and Indemnity

To	The West of England Ship Owners Mutual Insurance Association (Luxembourg) Managers: West of England Insurance Services (Luxembourg) S.A
	UK Branch: Tower Bridge Court, 226 Tower Bridge Road London SE1 2UP **Hong Kong Branch:** 1302 China Evergrande Centre 38 Gloucester Road, Wanchai, Hong Kong **Singapore Branch:** Wallich Street Guoco Tower, Level 14-01 Singapore 078881

From	Please insert name and address of Member

Dear Sirs, please will you credit us with laid-up returns in accordance with Class 1 Rule 48 (as set out overleaf) in respect of the following lay-up:

Vessel Name:	
Port or Place of Lay-Up and Latitude and Longitude Position	
Purpose of Lay-Up (e.g. Hot Lay-Up / Cold Lay-Up)	
Period of Lay-Up	
How many crewmembers remained on board during the lay-up?	
How many crewmembers were required by the Port Authority and / or the vessel's Flag Administration to remain on board during the lay-up?	
What is the total number of persons specified on the vessel's Safe Manning Document?	

We enclose an original certificate or other document issued by the government or port authority having jurisdiction over the port or place of lay-up which states:

1. the port or place of lay-up
2. the date on which the lay-up period began and, if the lay-up has ended, the date on which the lay-up ended
3. that the insured vessel had no cargo on board at any time during the lay-up period
4. the number of crew on board during the lay-up.

Yours faithfully,
[Signature]

Name:
Company Name:
Date:

Please note:

a) There must be no cargo on board during the laid-up period for a return of premium to apply.

b) Laid-up periods of less than 30 days do not qualify for a return of premium.

c) Rule 48 (4) and (5) which requires you to let the Association know immediately a vessel is due to resume trading after any lay-up of four consecutive calendar months or more.

An MS Word format Laid-up Return can be downloaded from the Underwriting documents page on the West of England website.

Appendix 1 – Laid-Up Returns - Class 1 Protection and Indemnity (continued)

Class 1 Protection & Indemnity Rules – Rule 48

48 Laid-Up Returns

(1) If an insured vessel shall be laid-up in any safe port or place for a period of thirty or more consecutive days after anchoring or mooring there (such period being computed from the day of arrival to the day of departure, one only of such days being included) the Member concerned shall be allowed in respect of such vessel for the period of lay-up a return of Calls except Overspill Calls calculated at the rate of 75 per cent of the mutual element of his Advance Call and of his estimated Additional Call plus such amount as the Committee shall determine shall be allowed in respect of the premium payable by the Association under the General Excess Loss reinsurance Contracts effected collectively by the parties to the Pooling Agreement.

(2) For the purpose of this Rule a vessel shall not be treated as laid-up if it had either crew members (other than crew necessary in the opinion of the Managers for its maintenance and safety) or cargo on board. Provided that the Managers may allow in respect of such vessel for the period of lay-up a return of Calls except Overspill Calls calculated at up 50 per cent of the mutual element of his Advance Call and of his estimated Additional Call plus such amount as the Committee shall determine shall be allowed in respect of the premium payable by the Association under the General Excess Loss reinsurance Contracts effected collectively by the parties to the Pooling Agreement where the vessel is laid-up with crew (other than crew necessary in the opinion of the Managers for its maintenance and safety) but without any cargo on board.

(3) Unless otherwise agreed in writing by the Managers no claim for laid-up returns relating to any Policy Year shall be recoverable from the Association unless:

(a) written notice of the intended lay-up has been given to the Managers before its commencement, including details of the place of lay-up and of the number of crew and the amount and nature of any cargo on board.

(b) written notice of termination of lay-up has been given to the Managers before the vessel leaves the place of lay-up

(c) the claims for laid-up returns is submitted to the Managers within three calendar months of termination of lay-up accompanied by a certificate or other document issued by the government or port authority having jurisdiction over the port or place of lay-up which states:

(i) the port or place of lay-up

(ii) the date on which the lay-up period began and, (if the lay-up has ended), the date on which the lay-up ended

(iii) that the insured vessel had no cargo on board at any time during the lay-up period

(iv) the number of crew on board during the lay-up period.

(d) the Member has provided the Managers with such information as they may require from time to time in connection with such lay-up.

(4) If an insured vessel commences or recommences trading after it has been and has remained in safety in any safe port for a period of four consecutive calendar months or more after anchoring or mooring there (such period being computed from the day of arrival to the day of departure, one only of such days being included) in circumstances in which the Member concerned is entitled to Laid-up Returns under paragraph (1) or (2) of this Rule, the Member shall give the Managers seven days prior written notice of such

commencement or recommencement so as to enable the Managers if they think fit to require to be satisfied as to the condition of the insured vessel by a survey of the insured vessel or otherwise.

(5) If the Member does not so inform the Managers, the Association shall not be liable for any loss, damage, liability, costs or expenses which would have been avoided if the opportunity for such survey had been given, a survey had been carried out and all defects revealed in that survey had been remedied.

(6) The Directors shall have sole discretion in determining whether the port or place concerned is safe within the meaning of this Rule 48.

Appendix 2 – P&I Reactivation Checklist

P&I Reactivation Checklist

Vessel Type:

Ship's name:

IMO No:

Survey date of first attendance:

Survey date of last attendance:

Survey port / location:

Surveyor:

Surveyor Ref No:

West of England Ref No:

1. Vessel's Particulars

1.1. Particulars

1.1.1. Ship's name:
1.1.2. Previous name(s):
1.1.3. IMO No:
1.1.4. Flag / port of registry:
1.1.5. Year built:
1.1.6. Builder:
1.1.7. Class Society:
1.1.8. Class notation:
1.1.9. Ship type:
1.1.10. GT:
1.1.11. Summer DWT:
1.1.12. Last docking:
1.1.13. Last Class special survey:
1.1.14. Ship's trading pattern:
1.1.15. Master's name:
1.1.16. Name of owner's representative attending survey:
1.1.17. Time under present management:
1.1.18. Owners:
1.1.19. Managers (crewing, technical & safety):

2. List of Defects / Deficiencies

A list of all defects / deficiencies noted during the survey is to be given to the owner's representative or master on completion of the survey. A copy of this list, in MS WORD format, is to be attached to this report.

3. General

No.	System	Y	N	NA	NI
3.1	All statutory Flag State surveys should be completed and certification issued.	☐	☐	☐	☐
	Result / Remarks:				
3.2	All Class surveys should be completed and certification issued.	☐	☐	☐	☐
	Result / Remarks:				
3.3	If the vessel has been issued with a Safe Manning Document to cover the duration of the lay-up period, a new certificate should be issued by the Flag State prior to the vessel resuming trading.	☐	☐	☐	☐
	Result / Remarks:				
3.4	The vessel's Safety Management System should be brought up to date, including supplying the vessel with the latest company circulars.	☐	☐	☐	☐
	Result / Remarks:				
3.5	In addition to the specific points mentioned in this checklist, it should be ensured that all planned maintenance is completed and brought up to date prior to resuming trading.	☐	☐	☐	☐
	Result / Remarks:				

No.	System	Y	N	NA	NI
3.6	Consult the lay-up log for necessary reactivation actions: remove temporary installations / arrangements such as conservation grease / wrapping; refill cooling / heating systems with suitable products, return valves / vent hatches to their operational position, refit drain plugs etc.	☐	☐	☐	☐
	Result / Remarks:				
3.7	Spares levels should be brought up to an acceptable level prior to departure from the lay-up location. It should be borne in mind that some items, for example, main engine cylinder liners, may have very long lead times.	☐	☐	☐	☐
	Result / Remarks:				
3.8	Galley equipment and domestic fridges and freezers should be checked and proved to be operating at the required temperature, and emergency alarms tested.	☐	☐	☐	☐
	Result / Remarks:				
3.9	Adequate food stores and potable water should be provided to the vessel for the forthcoming voyage.	☐	☐	☐	☐
	Result / Remarks:				

3. General (continued)

No.	System	Y	N	NA	NI
3.10	Depending on the length of the lay-up, new regulations may have come into force necessitating the fitment, for example, of new navigational equipment. This should be verified well in advance of the proposed date that the vessel will resume trading, as lead times can be considerable if other owners are also attempting to comply with new requirements before deadlines.	☐	☐	☐	☐
	Result / Remarks:				
3.11	Adequate stocks of lubricating and hydraulic oil, grease and chemicals should be onboard for the planned voyage.	☐	☐	☐	☐
	Result / Remarks:				
3.12	Main and emergency lighting around the entire vessel should be checked and blown lamps replaced as necessary.	☐	☐	☐	☐
	Result / Remarks:				
3.13	Damage control valves should be function tested.	☐	☐	☐	☐
	Result / Remarks:				
3.14	Watertight doors, both powered and manual, should be inspected and operated, and all alarms etc. proved operational, where fitted.	☐	☐	☐	☐
	Result / Remarks:				

No.	System	Y	N	NA	NI
3.15	Passenger, crew and service lifts should be serviced by a technician approved by the manufacturer.	☐	☐	☐	☐
	Result / Remarks:				
3.16	On vessels that have been laid-up for some time warnings notices, stencilled instructions, IMO LSA / FFA symbols and LSA launching instructions on deck and around the accommodation superstructure may have become faded and should be repainted or replaced as necessary.	☐	☐	☐	☐
	Result / Remarks:				
3.17	Where fumigants or other pest / rodent control measures have been used during the lay-up period these should be removed. If the vessel is found to have a pest or rodent problem upon reactivation, then suitable pest control contractors should be brought in to treat the vessel.	☐	☐	☐	☐
	Result / Remarks:				

Additional information:

4. Safety of Life

No.	System	Y	N	NA	NI
4.1	Escape routes and means of access should be checked for safety upon commencing reactivation.	☐	☐	☐	☐
	Result / Remarks:				
4.2	Lifeboat hand flares, parachute flares, smoke floats and first aid kits should be confirmed as being in date.	☐	☐	☐	☐
	Result / Remarks:				
4.3	Lifeboat rations should be checked to ensure they are in date.	☐	☐	☐	☐
	Result / Remarks:				
4.4	Lifeboat fuel should be topped up and engines test run for a suitable period.	☐	☐	☐	☐
	Result / Remarks:				
4.5	Lifeboat potable water tanks should be flushed and refilled, or when potable water sachets are provided, renewed if necessary.	☐	☐	☐	☐
	Result / Remarks:				
4.6	Lifeboat davit fall wires should be inspected and renewed when necessary due to deterioration, or at intervals of not more than 5 years.	☐	☐	☐	☐
	Result / Remarks:				

No.	System	Y	N	NA	NI
4.7	The lifeboat(s) should be lowered or freefall launched, as appropriate, and test run in the water with their assigned operating crew.	☐	☐	☐	☐
	Result / Remarks:				
4.8	Rescue boat equipment should be checked and if any is found to have time expired, then replaced.	☐	☐	☐	☐
	Result / Remarks:				
4.9	Rescue boat fuel tanks should be topped up and engines test run for a suitable period.	☐	☐	☐	☐
	Result / Remarks:				
4.10	Rescue boat davit fall wires should be inspected and renewed when necessary due to deterioration, or at intervals of not more than 5 years.	☐	☐	☐	☐
	Result / Remarks:				
4.11	Rescue boats should be launched and manoeuvred in the water with their assigned operating crew.	☐	☐	☐	☐
	Result / Remarks:				
4.12	Liferafts should be checked to ensure they are in date for their annual service.	☐	☐	☐	☐
	Result / Remarks:				

4. Safety of Life (continued)

No.	System	Y	N	NA	NI
4.13	Disposable liferaft hydrostatic releases should be checked to ensure they are in date, or serviced if non-disposable releases are in use.	☐	☐	☐	☐
	Result / Remarks:				
4.14	EPIRB batteries any hydrostatic releases should be checked to ensure they are in date.	☐	☐	☐	☐
	Result / Remarks:				
4.15	EPIRB annual performance test should be checked to ensure it is in date.	☐	☐	☐	☐
	Result / Remarks:				
4.16	SART batteries should be checked to ensure they are in date.	☐	☐	☐	☐
	Result / Remarks:				
4.17	GMDSS handheld VHF radio lithium batteries should be checked to ensure they are in date.	☐	☐	☐	☐
	Result / Remarks:				
4.18	Bridge parachute flares should be checked, and replaced if time expired.	☐	☐	☐	☐
	Result / Remarks:				

No.	System	Y	N	NA	NI
4.19	The rockets, strikers and the line throwing apparatus units should be checked, and if any components have expired, they should be replaced.	☐	☐	☐	☐
	Result / Remarks:				
4.20	Fire extinguishers should be hydrostatically tested, serviced and refilled, as may be required according to the manufacturers' instructions.	☐	☐	☐	☐
	Result / Remarks:				
4.21	Breathing apparatus sets should be serviced in line with the manufacturer's instructions.	☐	☐	☐	☐
	Result / Remarks:				
4.22	The breathing apparatus compressor should be serviced, (oil and filter changed), in line with the manufacturer's instructions, and confirmed operational.	☐	☐	☐	☐
	Result / Remarks:				
4.23	Breathing apparatus bottles should be hydrostatically tested, if required, and filled to their working pressure ready for use.	☐	☐	☐	☐
	Result / Remarks:				

4. Safety of Life (continued)

No.	System	Y	N	NA	NI
4.24	Emergency Life Saving Appliance (ELSA) bottles should be hydrostatically tested, if required, and filled to their working pressure ready for use.	☐	☐	☐	☐
	Result / Remarks:				
4.25	The medicine chest and first aid kits should be checked by a suitably qualified chemist, and brought up to date in accordance with the latest medical stores requirements as published by the vessel's Flag State.	☐	☐	☐	☐
	Result / Remarks:				
4.26	Fixed firefighting installations should be serviced and gas bottle levels checked in line with the manufacturer's recommended schedule, by a service company approved by the manufacturer.	☐	☐	☐	☐
	Result / Remarks:				
4.27	Fixed firefighting gas delivery lines should be blown through with compressed air.	☐	☐	☐	☐
	Result / Remarks:				
4.28	Fixed fire detection systems should be thoroughly tested at the earliest opportunity.	☐	☐	☐	☐
	Result / Remarks:				

No.	System	Y	N	NA	NI
4.29	Fire pumps, both main and emergency, should be test run and their performance checked and the integrity of the fire main verified by delivering water to two hoses situated one at each end of the vessel.	☐	☐	☐	☐
	Result / Remarks:				
4.30	Fire hydrants and nozzles should be checked for condition and free operation, and fire hoses pressure tested.	☐	☐	☐	☐
	Result / Remarks:				
4.31	Sprinkler, drenching and hi-fog systems should be flushed with fresh water, then pressurised and checked for leaks.	☐	☐	☐	☐
	Result / Remarks:				

Additional information:

5. Bridge and Navigation

No.	System	Y	N	NA	NI
5.1	All navigational equipment should be tested and serviced if required.	☐	☐	☐	☐
	Result / Remarks:				
5.2	The gyro compass(es), should be started well in advance of being required to allow the gyro to settle and the error to be checked.	☐	☐	☐	☐
	Result / Remarks:				
5.3	The VDR system should be subject to its annual test, if due.	☐	☐	☐	☐
	Result / Remarks:				
5.4	All charts, paper and / or electronic, should be of the latest edition available and corrected up to date.	☐	☐	☐	☐
	Result / Remarks:				
5.5	All nautical publications should be the latest edition available, and corrected up to date.	☐	☐	☐	☐
	Result / Remarks:				
5.6	The magnetic compass should be swung and corrected.	☐	☐	☐	☐
	Result / Remarks:				

No.	System	Y	N	NA	NI
5.7	All GMDSS equipment should be tested in line with the manufacturer's instructions, and link tests or test calls made to verify that the equipment is functioning correctly.	☐	☐	☐	☐
	Result / Remarks:				
5.8	All lights and signalling equipment, both main and backup, should be verified as operational, including navigation and Christmas tree lights, Aldiss lamps (the battery should be fully charged) and whistles.	☐	☐	☐	☐
	Result / Remarks:				

Additional information:

6. Mooring and Anchoring Equipment

No.	System	Y	N	NA	NI
6.1	Mooring ropes and wires should be checked for wear and damage, and in the case of ropes, actinic degradation and internal wear along their entire length, and replaced as necessary.	☐	☐	☐	☐
	Result / Remarks:				
6.2	Mooring winches, windlasses and mooring wires should be greased with an appropriate dressing in line with the manufacturer's recommendations.	☐	☐	☐	☐
	Result / Remarks:				
6.3	Mooring winch brakes should be inspected and tested and adjusted as necessary in line with the manufacturer's instructions.	☐	☐	☐	☐
	Result / Remarks:				
6.4	Winch and windlass bed plates and save-alls, where fitted, should be checked for excessive wastage, cracks or deformation.	☐	☐	☐	☐
	Result / Remarks:				
6.5	Mooring furniture, such as bitts, leads and dead man rollers should be inspected for correct operation and damage, and greased as necessary.	☐	☐	☐	☐
	Result / Remarks:				

No.	System	Y	N	NA	NI
6.6	When the vessel has been laid-up at anchor the wastage on the anchor cable should be checked to ensure that it does not exceed Class limits.	☐	☐	☐	☐
	Result / Remarks:				
6.7	The condition of the anchor cable should be checked, so far as possible, over its entire length for damage, loose studs or missing length markings.	☐	☐	☐	☐
	Result / Remarks:				
6.8	The anchor should be visually inspected for damage such as a bent shank or flukes, and wear down of the anchor shackle pin.	☐	☐	☐	☐
	Result / Remarks:				
6.9	Anchor securing devices, both fixed and portable, should be inspected and made ready for use.	☐	☐	☐	☐
	Result / Remarks:				
6.10	Hawse pipes should be inspected for damage, in particular the join between the hawse pipe and hull plating.	☐	☐	☐	☐
	Result / Remarks:				

6. Mooring and Anchoring Equipment (continued)

No.	System	Y	N	NA	NI
6.11	The windlass should be inspected, in particular paying attention to brake linings and gypsy (cable lifter / wildcat) wear down.	☐	☐	☐	☐
	Result / Remarks:				

Additional information:

7. Main Deck

No.	System	Y	N	NA	NI
7.1	Chain lockers should be cleaned, dried and coated, as necessary, while the chains are out. So far as this is safe and practicable.	☐	☐	☐	☐
	Result / Remarks:				
7.2	The condition of all walkways, gratings and external ladders should be checked to confirm they are not wasted and are structurally sound.	☐	☐	☐	☐
	Result / Remarks:				
7.3	All doors, gates, openings and ports should be checked for satisfactory condition and operation.	☐	☐	☐	☐
	Result / Remarks:				
7.4	All main deck space vents should be checked for correct operation, and fans should be test run.	☐	☐	☐	☐
	Result / Remarks:				
7.5	Gangways and accommodation ladders should be thoroughly inspected and tested in line with SOLAS requirements, following the manufacturer's instructions.	☐	☐	☐	☐
	Result / Remarks:				
7.6	Pilot ladders should be thoroughly inspected and tested. Pilot ladder ropes or fittings found to be worn, damaged or degraded should be replaced.	☐	☐	☐	☐
	Result / Remarks:				

7. Main Deck (continued)

No.	System	Y	N	NA	NI
7.7	When tank or void space manhole covers have been removed during lay-up, these should be refitted with joints cleaned and fitted with new gaskets and all nuts fitted and tightened. So far as practicable spaces should be hydrostatically tested to check the integrity of the manhole covers.	☐	☐	☐	☐
	Result / Remarks:				
7.8	Hatch cover securing devices should be inspected and replaced / adjusted as necessary.	☐	☐	☐	☐
	Result / Remarks:				
7.9	Hatch cover rubber seals should be inspected and replaced where missing or having excessive permanent imprint.	☐	☐	☐	☐
	Result / Remarks:				
7.10	Hatch coaming drains should be checked to ensure they are clear, with fire caps connected.	☐	☐	☐	☐
	Result / Remarks:				
7.11	Hatch covers, hold access booby hatches and hold vents should all be checked for weathertightness, ideally using ultrasonic equipment.	☐	☐	☐	☐
	Result / Remarks:				

No.	System	Y	N	NA	NI
7.12	Tank closing arrangements, P/V valves, and flame screens should all be checked for operation and integrity.	☐	☐	☐	☐
	Result / Remarks:				
7.13	Ballast tank vents should be inspected, ensuring they are clear of debris and that self-closing devices are operational.	☐	☐	☐	☐
	Result / Remarks:				
7.14	Sounding pipes should be inspected, and it should be ensured that all caps are available and fitted.	☐	☐	☐	☐
	Result / Remarks:				
7.15	The location of the scupper plugs and save-all plugs should be verified and save-all plugs fitted as necessary.	☐	☐	☐	☐
	Result / Remarks:				
7.16	If due, thorough visual inspections, or proof load testing followed by a thorough visual inspection of cargo cranes and lifting gear should be carried out.	☐	☐	☐	☐
	Result / Remarks:				

Additional information:

8. Cargo Spaces – Dry Cargo

No.	System	Y	N	NA	NI
8.1	Cargo holds should be visually inspected for damage to the structure and access arrangements, with repairs carried out as necessary.	☐	☐	☐	☐
	Result / Remarks:				
8.2	Cargo hold coatings should be inspected for corrosion, blistering and loose flaking paint. Coatings should be rectified to a standard in accordance with the planned employment of the vessel.	☐	☐	☐	☐
	Result / Remarks:				
8.3	Pipework running through the hold should be checked for integrity; often holes develop on the blind side of tank vent pipes and sounding pipes in hard to access areas.	☐	☐	☐	☐
	Result / Remarks:				
8.4	Ballast tanks surrounding the cargo holds should be hydrostatically tested to check the integrity of the tanks.	☐	☐	☐	☐
	Result / Remarks:				
8.5	Hold bilge wells should be clean and the suction tested. Strum boxes and bilge plates should be cleaned of debris and securely fitted. Non-return valves should be opened, serviced and tested.	☐	☐	☐	☐
	Result / Remarks:				

No.	System	Y	N	NA	NI
8.6	Hold vent closure devices should be checked and fans test run where fitted.	☐	☐	☐	☐
	Result / Remarks:				
8.7	Refrigerated machinery should be re-activated, serviced and tested prior to use in line with the manufacturer's instructions.	☐	☐	☐	☐
	Result / Remarks:				
8.8	Cargo hold inert gas systems should be checked and tested in line with the manufacturer's instructions.	☐	☐	☐	☐
	Result / Remarks:				
8.9	Cargo lashing equipment should be checked for condition and quantity. Where deemed necessary material should be replaced or supplemented.	☐	☐	☐	☐
	Result / Remarks:				

Additional information:

9. Cargo Spaces – Liquid Cargo

No.	System	Y	N	NA	NI
9.1	Cargo tanks should be visually inspected for damage to the structure and access arrangements, with repairs carried out as necessary.	☐	☐	☐	☐
	Result / Remarks:				
9.2	Cargo tank coatings should be inspected for corrosion, blistering and loose flaking paint. Coatings should be rectified to a standard in accordance with the planned employment of the vessel.	☐	☐	☐	☐
	Result / Remarks:				
9.3	So far as is practicable, ballast tanks surrounding the cargo tanks should be hydrostatically tested to ensure their integrity.	☐	☐	☐	☐
	Result / Remarks:				
9.4	So far as is practical, cargo tanks should be hydrostatically tested to ensure their integrity.	☐	☐	☐	☐
	Result / Remarks:				
9.5	Heating coils should be blown through with steam or air with their drains open. They should then be examined under test to full working pressure and temperature.	☐	☐	☐	☐
	Result / Remarks:				

No.	System	Y	N	NA	NI
9.6	Fixed tank cleaning machines should be function tested.	☐	☐	☐	☐
	Result / Remarks:				
9.7	The inert gas or nitrogen system should be inspected and tested in line with the manufacturer's instructions.	☐	☐	☐	☐
	Result / Remarks:				
9.8	Cargo pump room vent closure devices should be checked for operation and fans test run.	☐	☐	☐	☐
	Result / Remarks:				
9.9	Cargo pump rooms should be internally inspected with piping, valves and pumps examined.	☐	☐	☐	☐
	Result / Remarks:				
9.10	Cargo, stripping and ballast pumps should be proved operational.	☐	☐	☐	☐
	Result / Remarks:				
9.11	Cargo piping valves should be function tested prior to use.	☐	☐	☐	☐
	Result / Remarks:				
9.12	Cargo piping should be pressure tested and marked accordingly prior to use.	☐	☐	☐	☐
	Result / Remarks:				

9. Cargo Spaces – Liquid Cargo (continued)

No.	System	Y	N	NA	NI
9.13	All automation and remote control systems should be fully function tested prior to use.	☐	☐	☐	☐
	Result / Remarks:				
9.14	Oil Discharge Monitoring Equipment (ODME) should be checked and proved operational.	☐	☐	☐	☐
	Result / Remarks:				

Additional information:

10. Hull and Openings

No.	System	Y	N	NA	NI
10.1	Any blanks fitted over sea suctions should be removed by divers.	☐	☐	☐	☐
	Result / Remarks:				
10.2	Sea chests and thruster gratings should be inspected and marine growth removed as necessary.	☐	☐	☐	☐
	Result / Remarks:				
10.3	All underwater areas of the hull should be checked as a pre-cursor for possible drydocking of the vessel.	☐	☐	☐	☐
	Result / Remarks:				
10.4	The condition of the topside and vertical bottom paint system should be checked when the vessel is suitably de-ballasted.	☐	☐	☐	☐
	Result / Remarks:				
10.5	If marine growth is prevalent on the underwater section of the hull, rudder and propeller; these should be cleaned.	☐	☐	☐	☐
	Result / Remarks:				
10.6	The stern seal should be checked for the presence of nets, fishing lines and ropes, and removed when found, whilst ensuring that rope guards remain in place and rope cutters, if fitted, remain effective.	☐	☐	☐	☐
	Result / Remarks:				

10. Hull and Openings (continued)

No.	System	Y	N	NA	NI
10.7	Draught, loadline or other marks painted on the hull should be clear of marine growth and easily readable; if necessary the marks should be repainted.	☐	☐	☐	☐
	Result / Remarks:				
10.8	The condition of the cathodic protection of the hull should be checked to verify an impressed current system is working or if there is sufficient cross section of sacrificial anodes on the hull.	☐	☐	☐	☐
	Result / Remarks:				
10.9	If waterline guide marks were painted on the hull at the commencement of lay-up these should be painted over.	☐	☐	☐	☐
	Result / Remarks:				

Additional information:

11. Ballast Tanks and Enclosed Spaces

It should be re-iterated that in spite of continued attention being focused on the dangers of enclosed spaces, seafarers continue to die and suffer serious injury as a result of not following correct procedures when entering an enclosed space. The procedures detailed in the vessel's Safety Management System should be followed when entering enclosed spaces and spaces should not be entered until they have been proved to be safe.

No.	System	Y	N	NA	NI
11.1	Where full ballast tanks have been treated with a corrosion inhibitor, the manufacturer's instructions for flushing the tank should be followed. All discharges should be in accordance with regulatory requirements.	☐	☐	☐	☐
	Result / Remarks:				
11.2	Tanks that have been kept empty during the lay-up period should be inspected for leaks from adjacent full tanks, in particular from adjacent full fuel tanks.	☐	☐	☐	☐
	Result / Remarks:				
11.3	Potable water tanks should be inspected and confirmed clean and the paint coating touched up where necessary. The tanks should be disinfected and the entire distribution system super-chlorinated prior to being filled with clean potable water and brought back into service. Shower heads and fresh water hoses may also require super-chlorination.	☐	☐	☐	☐
	Result / Remarks:				

Additional information:

12. Bunker Tanks and Pumping Systems

No.	System	Y	N	NA	NI
12.1	Prior to commencing any bunkering operations during reactivation, all of the bunker tanks should be sounded and the pipe line up should be carefully checked.	☐	☐	☐	☐
	Result / Remarks:				
12.2	Prior to commencing any bunkering operations during reactivation it should be confirmed that the overflow tank is empty.	☐	☐	☐	☐
	Result / Remarks:				
12.3	Fuel oil transfer pump filters should be dismantled and cleaned.	☐	☐	☐	☐
	Result / Remarks:				
12.4	Where heavy fuel oil remains onboard in storage tanks, samples should be drawn and sent for independent analysis by a reputable laboratory.	☐	☐	☐	☐
	Result / Remarks:				

No.	System	Y	N	NA	NI
12.5	If fuel has been left in the settling and service tanks during lay-up, this should be drained into a double bottom bunker tank and the service and settling tanks opened and cleaned of any sludge or residue.	☐	☐	☐	☐
	Result / Remarks:				

Additional information:

13. Electrical and Electronic

On older vessels, the sourcing and delivery of spare parts, in particular replacement circuit boards, can sometimes take time, therefore it is advised that systems are confirmed as operational well in advance of the resumption of trading.

No.	System	Y	N	NA	NI
13.1	As heat is gradually returned to the accommodation and machinery spaces, desiccants and space heaters should be removed from all electronic panels, boxes and equipment.	☐	☐	☐	☐
	Result / Remarks:				
13.2	Circuits connected to the main and emergency switchboards should be isolated in turn and have their insulation resistance to earth measured and recorded. Low earth readings and any reading substantially lower than those recorded at commencement of lay-up should be investigated and cleared.	☐	☐	☐	☐
	Result / Remarks:				
13.3	Prior to using any of the electric motors fitted to vents, pumps, winches etc. these should be megger tested.	☐	☐	☐	☐
	Result / Remarks:				
13.4	Electrical equipment removed from deck during the lay-up period due to low megger readings should be reinstated and repaired.	☐	☐	☐	☐
	Result / Remarks:				

No.	System	Y	N	NA	NI
13.5	Electric circuits, starters, motor windings and electronic control systems should be proven prior to running up any mechanical equipment.	☐	☐	☐	☐
	Result / Remarks:				
13.6	All main engine, auxiliary and steering gear alarms, trips and automatic pump change over switches should be tested and calibrated.	☐	☐	☐	☐
	Result / Remarks:				
13.7	Electrical equipment in hazardous areas, in particular pump rooms, should be specifically examined to ensure they remain efficient.	☐	☐	☐	☐
	Result / Remarks:				
13.8	The operation of the overload trips of all generator circuit breakers should be checked for satisfactory operation.	☐	☐	☐	☐
	Result / Remarks:				
13.9	All emergency batteries should be load tested, and charged or replaced as necessary.	☐	☐	☐	☐
	Result / Remarks:				

Additional information:

14. Engine room

No.	System	Y	N	NA	NI
14.1	All covers on exhausts at the top of the funnel and elsewhere should be removed at the beginning of the reactivation process.	☐	☐	☐	☐
	Result / Remarks:				
14.2	Prior to reactivating any machinery it should be confirmed that there is capacity available in the bilge tank and that the engine room bilge system and the bilge alarms are working.	☐	☐	☐	☐
	Result / Remarks:				
14.3	It is recommended that when the residual oil storage tank contents have not been emptied for some time, that the tank is emptied prior to resuming service.	☐	☐	☐	☐
	Result / Remarks:				
14.4	The Oily Water Separator and Oil Discharge Monitoring Equipment should be checked and their correct operation verified.	☐	☐	☐	☐
	Result / Remarks:				

No.	System	Y	N	NA	NI
14.5	Lubricating and hydraulic oil samples should be drawn from all applicable machinery and sent for independent analysis by a reputable laboratory, it is recommended that machinery is not used until results have been received and found to be in order. Oil should be drained and replaced when the samples have been found to be outside the acceptable parameters.	☐	☐	☐	☐
	Result / Remarks:				
14.6	When manhole doors have been removed from coolers for the duration of the lay-up these should be refitted, with new anodes fitted as required. The door seal should be proven before any further work is carried out.	☐	☐	☐	☐
	Result / Remarks:				
14.7	Where blanks have been fitted to pipework, these should be removed.	☐	☐	☐	☐
	Result / Remarks:				
14.8	Where valves have been removed from pipework, these should be replaced.	☐	☐	☐	☐
	Result / Remarks:				
14.9	Pipework that was drained for the duration of the lay-up should be refilled and air bled from the system.	☐	☐	☐	☐
	Result / Remarks:				

14. Engine room (continued)

No.	System	Y	N	NA	NI
14.10	Pumping and piping systems should be tested and checked for leaks.	☐	☐	☐	☐
	Result / Remarks:				
14.11	Remote systems for the operation of ballast, fuel oil and lubricating oil pumps and valves should be tested.	☐	☐	☐	☐
	Result / Remarks:				
14.12	Remote fuel oil shut off valves should be inspected and function tested.	☐	☐	☐	☐
	Result / Remarks:				
14.13	Fuel tanks for emergency generators should be topped up.	☐	☐	☐	☐
	Result / Remarks:				
14.14	Emergency generators should be test run on load for a suitable period to verify their operation.	☐	☐	☐	☐
	Result / Remarks:				
14.15	Domestic hot and cold water systems should be tested and confirmed working satisfactorily.	☐	☐	☐	☐
	Result / Remarks:				

No.	System	Y	N	NA	NI
14.16	Air conditioning and heating systems should be tested and confirmed to be working satisfactorily.	☐	☐	☐	☐
	Result / Remarks:				

Additional information:

15. Diesel Main Engines

No.	System	Y	N	NA	NI
15.1	Early in the reactivation process the lubricating oil purifier should be started.	☐	☐	☐	☐
	Result / Remarks:				
15.2	Where the crankcase doors have been removed for the duration of the lay-up, the crankcase should be visually inspected for foreign objects and condensation damage within the engine prior to the doors being refitted.	☐	☐	☐	☐
	Result / Remarks:				
15.3	Cooling water should be circulated through the main engines and a close examination carried out to ensure that there is no leakage due to the deterioration of rubber seals.	☐	☐	☐	☐
	Result / Remarks:				
15.4	Fuel injection valves should be cleaned, adjusted and replaced. Fuel should then be circulated around the system to ensure there is no leakage.	☐	☐	☐	☐
	Result / Remarks:				
15.5	Starting air valves should be removed and tested.	☐	☐	☐	☐
	Result / Remarks:				

No.	System	Y	N	NA	NI
15.6	All automation, safety systems, trips and emergency shut offs should be tested and proved operational.	☐	☐	☐	☐
	Result / Remarks:				

Additional information:

16. Auxiliary Diesel Engines

No.	System	Y	N	NA	NI
16.1	If the auxiliary engines have not been used during the lay-up period, then a sample of main bearings and connecting rod bottom end bearings should be opened up for examination. Further examination will be dependent on the condition found.	☐	☐	☐	☐
	Result / Remarks:				
16.2	Where auxiliary engines have been run on low load for some time during a period of hot lay-up there is the possibility that appropriate maintenance has not been carried out or proper running hour logs kept. In which case these items need to be carefully examined on reactivation.	☐	☐	☐	☐
	Result / Remarks:				
16.3	All auxiliary engines should be run-up and warmed through prior to running for a period of at least one hour, at or as near as possible to rated capacity, during which time the automation and shut downs should be tested at normal operating temperature.	☐	☐	☐	☐
	Result / Remarks:				

Additional information:

17. Steam Plant

No.	System	Y	N	NA	NI
17.1	When re-activating service steam systems it should be ensured that lines are correctly vented of air and pressures increased slowly to minimise water hammer.	☐	☐	☐	☐
	Result / Remarks:				
17.2	When condensers have tube ends fitted with fibre packing these should be checked upon reactivation to ensure they remain leak free. This is particularly important after a long period of dehumidification.	☐	☐	☐	☐
	Result / Remarks:				
17.3	Distilled water and feed water should be sampled and tested to ensure it is in satisfactory condition prior to use.	☐	☐	☐	☐
	Result / Remarks:				
17.4	Feed water test and treatment chemicals have a relatively short storage life. These should therefore be tested and proved free of deterioration prior to use.	☐	☐	☐	☐
	Result / Remarks:				

Additional information:

18. Boilers

No.	System	Y	N	NA	NI
18.1	Where desiccants have been placed in water spaces these should be removed and a thorough visual inspection carried out prior to closing up the drums and headers.	☐	☐	☐	☐
	Result / Remarks:				
18.2	The fire side of the boiler should be visually examined prior to reactivation.	☐	☐	☐	☐
	Result / Remarks:				
18.3	All burners should be dismantled and cleaned.	☐	☐	☐	☐
	Result / Remarks:				
18.4	Fuel oil should be circulated through the oil burning systems with the glands and joints checked for leakage.	☐	☐	☐	☐
	Result / Remarks:				
18.5	All safety systems and emergency shut offs should be tested and proved operational.	☐	☐	☐	☐
	Result / Remarks:				
18.6	All air sealing of uptakes and fan inlets should be removed.	☐	☐	☐	☐
	Result / Remarks:				

No.	System	Y	N	NA	NI
18.7	When first raising steam in boilers, this should be done slowly with the tightness of manhole doors, handhold doors, glands and bolted joints checked as temperatures increase.	☐	☐	☐	☐
	Result / Remarks:				
18.8	All external steam lines should be adequately drained and warmed through prior to subjecting them to full steam pressure.	☐	☐	☐	☐
	Result / Remarks:				

Additional information:

19. Steam Turbines

No.	System	Y	N	NA	NI
19.1	The bearing journals should be examined and oil change to be checked.	☐	☐	☐	☐
	Result / Remarks:				
19.2	Continuous purification of the main engine lubricating oil should be carried out; however, oil is not to be circulated through the main system until a favourable analysis report has been received.	☐	☐	☐	☐
	Result / Remarks:				
19.3	Steam driven turbo alternators, feed, cargo and ballast pumps etc. should be function tested together with their overspeed trips, governors, and other safety devices, prior to being placed in service.	☐	☐	☐	☐
	Result / Remarks:				

Additional information:

20. Commissioning

No.	System	Y	N	NA	NI
20.1	When a vessel has been laid-up for a prolonged period it is recommended that sea trials are conducted prior to the vessel resuming service.	☐	☐	☐	☐
	Result / Remarks:				
20.2	Communications systems, sound powered telephones, talkback systems and public address systems should all be tested and proved operational prior to departing on sea trials.	☐	☐	☐	☐
	Result / Remarks:				
20.3	Emergency stops for main engines, steering gear motors and thrusters should all be tested and proved operational.	☐	☐	☐	☐
	Result / Remarks:				
20.4	Emergency stops for fans should be tested and vent flaps and fire dampers function tested.	☐	☐	☐	☐
	Result / Remarks:				
20.5	Prior to departing the lay-up berth, if possible the main engine should be tested ahead and astern at low speed and warmed through prior to departure. Adequate tight moorings should be set prior to commencing this operation.	☐	☐	☐	☐
	Result / Remarks:				

20. Commissioning (continued)

No.	System	Y	N	NA	NI
20.6	Emergency steering systems should be tested prior to departing the lay-up location, and also during sea trials.	☐	☐	☐	☐
	Result / Remarks:				
20.7	During sea trials all machinery should be thoroughly tested, including operation from main and secondary control locations, as applicable.	☐	☐	☐	☐
	Result / Remarks:				

Additional information:

Surveyor's name:

Signature:

Date:

West of England

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