

**Joint Rig Committee**  
**Lay-up, Reactivation and Moorings Code of Practice and**  
**Lay-up, Reactivation and Moorings Scope of Work**

<b>Name</b>	<b>Date of Issue</b>	<b>Version</b>	<b>Changes</b>
JR2018-007	10 April 2018	1	Original
JR2019-008	03 September 2019	2	Update to COP & SOW
JNR2026-005	30 March 2026	3	Update and clarification of DP requirements

## Joint Natural Resources Committee Lay-Up, Reactivation and Moorings Code of Practice (COP)

The purpose of this COP is to:

- a. clarify the roles of the Marine Warranty Surveyor (MWS), assured and underwriters in the performance and specification of a Marine Warranty survey;
- b. establish agreed standards for the attending MWS when conducting a survey;
- c. define the lines of communication between underwriters and the MWS;
- d. establish agreed qualifications for the attending MWS when conducting a survey;
- e. where applicable, outline the basic requirements for the Certificate(s) of Approval (COA).

**Nothing in this COP shall relieve any party of any legal obligations existing in the absence of this document and nothing contained in this COP shall take precedence over any provisions of the Policy.**

This Code of Practice has been produced to accompany the attached Joint Rig Committee Scope of Work (SOW). A tailored Project Specific Scope of Work (PSSOW) may be substituted with the explicit prior agreement of underwriter(s).

### 1. The Role of the MWS

- 1.1 The fundamental objective of the MWS is to make reasonable endeavours to ensure that the risks associated with the warranted operations to which a Marine Warranty Surveyor is appointed are reduced to an acceptable level, in accordance with best industry practice.
- 1.2 The MWS Company will ensure that any individual MWS appointed to sign a COA in accordance with the SOW:
  - 1.2.1 is appropriately accredited by the Society of Offshore Marine Warranty Surveyors (SOMWS); or
  - 1.2.2 can demonstrate competence by completing document JNRC MWS Information Form (JR2019-009 or latest version available in the Technical Documents tab of JNRC webpage ([www.lmalloyds.com/committee/survey-and-engineering-sub-committee/](http://www.lmalloyds.com/committee/survey-and-engineering-sub-committee/))) to the satisfaction of underwriters ;prior to commencing the activities.
- 1.3 The Marine Warranty Surveyor will issue a COA for each critical operation as defined in the relevant scope of work, provided that they are satisfied, so far as possible, that the operations are conducted in accordance with:
  - 1.3.1 recognised codes of practice for design and operations;

- 1.3.2 best industry practice appropriate for the vessel(s), equipment and location(s);
  - 1.3.3 vessel(s) and equipment being used within defined safe operating limits;
  - 1.3.4 current Marine Operations Manual. When an operation is conducted outside the Marine Operations Manual, this is subject to a formal management of change process, with senior leadership, technical authority and MWS approval
- 1.4 Upon request the MWS shall propose an MWS plan to be agreed by the assured and underwriters which indicates, as a minimum, each activity, milestones, attendances and issuance of COA(s) for the project.
- 1.5 Upon request the MWS will make available to underwriters:
- 1.5.1 an opinion on the adequacy of the SOW – if there are any gaps or omissions this should be communicated to the Assured and the SOW updated accordingly;
  - 1.5.2 a schedule of actual and proposed site attendances;
  - 1.5.3 a schedule of COAs to be issued.
- 1.6 The MWS will:
- 1.6.1 advise underwriters when a confidentiality agreement with the assured is in place which would preclude the exchange of information or communication with underwriters;
  - 1.6.2 notify underwriters of any conflicts of interest. Examples of services that could present a conflict of interest with the Marine Warranty work, include:
    - 1.6.2.1 Marine or Design Consultant (or equivalent) involved in:
      - a. Design of project components to be used in a marine operation, the failure of which could compromise the integrity of a project asset (for example a lift beam or padeye);
      - b. Primary analysis of structures, hulls or component parts thereof. Note: the Marine Warranty Surveyor is, however, expected to review a design by others where this has a direct bearing on the marine risk e.g. check of the strength of launch frames on a launch jacket, or assessment of a lift analysis of a deck;
      - c. The production of procedures, project standards, risk assessments and other management documentation which influences how a marine operation is conducted and which has a direct bearing on the risk of a particular marine operation e.g. loadout, launch, lift of a jacket.
    - 1.6.2.2 Loss Adjuster
    - 1.6.2.3 Verification services associated with the operation
    - 1.6.2.4 Rig Mover

- 1.7 The MWS will immediately advise underwriters, with a copy to the assured:
  - 1.7.1 if any COA is withheld, or a Non-Conformance Certificate issued. Reasons for this should be clearly stated. Examples include:
    - 1.7.1.1 failings of the documentation provided;
    - 1.7.1.2 failings in the preparations made;
    - 1.7.1.3 unacceptable change of circumstances which depart from the approved procedures and preparations;
    - 1.7.1.4 a proposed operation that is considered too dangerous to be considered as acceptable good practice from the outset or as preparations proceed, e.g. weather conditions deteriorate to the point where they exceed the limits for a defined safe operation as agreed by the MWS;
  - 1.7.2 if the assured fails to comply with any recommendations made by the MWS.
  - 1.7.3 of any proposed changes to relevant key personnel employed by the MWS company.
- 1.8 The MWS shall inform underwriters of any:
  - 1.8.1 access restrictions to a site or work place of any item or activity to be warranted;
  - 1.8.2 continued lack of information for a warranted event that cannot or will not be resolved on site but which may prevent the eventual approval of an operation;
- 1.9 The MWS shall agree suitable lead times for attendance at vessel / site and documentation release with the assured.
- 1.10 The MWS may use information available from verifiable resources to assist with the conduct of the Marine Warranty activities. Where such information is relied upon by the MWS it should be clearly evidenced within the MWS Progress Report.

## **2. Role of the Assured**

- 2.1. The Assured must ensure that the selected MWS Company is suitably qualified to perform Marine Warranty activities in accordance with this COP and associated SOW (or PSSOW as applicable). Qualification of the MWS company shall be as per the MWS Good Practice Guideline (JR2016/014 or latest version available in the Technical Documents tab of JNRC webpage ([www.lmalloyds.com/committee/survey-and-engineering-sub-committee/](http://www.lmalloyds.com/committee/survey-and-engineering-sub-committee/))) or an equivalent process demonstrated by the assured to underwriters.
- 2.2. Once appointed on the project, the MWS Company shall not be changed without the express and prior agreement of underwriters.

### 2.3. The assured shall:

- 2.3.1. provide the MWS with a point of contact for underwriters and an appropriate point of contact in the assured's organisation to assist with the resolution of queries within 14 working days following the appointment of the MWS or prior to commencement of operations, whichever is sooner;
- 2.3.2. provide underwriters with the contact details of the MWS within 14 working days following the appointment of the same;
- 2.3.3. procure MWS participation at all relevant project management meetings, including the marine operations HAZOP / HAZID / SIMOP, contingency planning and assurance / testing plans, and at JSA (job safety analysis) meetings before the commencement of each marine operation;
- 2.3.4. contract the MWS company directly (without the involvement of any contractor or intermediary) unless required to enable compliance with the law in the jurisdiction or government regulations;
- 2.3.5. provide reasonable access and transportation facilities to the MWS to allow him to carry out the necessary work;
- 2.3.6. formally acknowledge receipt of all recommendations from the MWS;
- 2.3.7. maintain a record of compliance with and deviations from such recommendations;
- 2.3.8. obtain written approval from the MWS for any such deviation(s).
- 2.3.9. agree and comply with suitable lead times agreed with the MWS, in conjunction with item 1.10.

### 3. Role of the Underwriter

- 3.1. The Panel of MWSs is to be agreed by underwriters in conjunction with the MWS Good Practice Guideline (JR2016/014 or latest version available in the Technical Documents tab of JNRC webpage ([www.lmalloyds.com/committee/survey-and-engineering-sub-committee/](http://www.lmalloyds.com/committee/survey-and-engineering-sub-committee/))).
- 3.2. Other additions to the panel will need to demonstrate their capability / experience of similar projects and water depths, and to be agreed by underwriters.
- 3.3. On each project, underwriters will specify whether a "kick off" meeting is required between underwriters, the assured and the MWS. The assured, underwriters and MWS shall agree key risk milestones and date(s) for a joint review of the project scope and development and the MWS SOW should be updated to reflect any agreed changes and disseminated.
- 3.4. At the request of the MWS, underwriters will make available:

- 3.4.1. relevant applicable policy terms and conditions including, in particular, any warranty provisions or conditions precedent;
- 3.4.2. identity and contact details (including telephone, e-mail, fax and out of hours numbers) of the nominated underwriter to receive communications from the MWS.

#### 4. **MWS Progress Report**

- 4.1. Where requested, the MWS shall issue a monthly report to underwriters directly.
- 4.2. The MWS's report shall:
  - 4.2.1. include the name of the individual performing the survey;
  - 4.2.2. make, where necessary, recommendations which are required for the issuance of any COAs, expressed in writing in a clear and explicit manner and capable of verifiable implementation.
- 4.3. The report shall include the following contents:
  - 4.3.1. Introduction (executive summary; report No.; project start date; project end date; and name of individual performing the survey);
  - 4.3.2. Progress (activities performed in the last period; and activities to be performed in the next period);
  - 4.3.3. Summary of documentation reviewed (table showing number of documents reviewed in the last period, number approved, number on hold and documents reviewed for information only. The document register can be attached showing document status as an appendix);
  - 4.3.4. Attendances (meetings (date, location, purpose); and surveys (date, vessels, location, MWS (name)); and site attendances (date, location, purpose); and all COAs issued since the previous report);
  - 4.3.5. Invoicing (progress against CTR (Cost, Time, Resource) sheets with value of work done to report date and latest estimate of expenditure to the end of activities together with a commentary on significant deviations from the original estimates; variation orders; and the total invoiced);
  - 4.3.6. Areas of concern (technical, project management and invoicing);
  - 4.3.7. Safety (incidents reported, lost time incidents, statistics, etc.).

## Joint Natural Resources Committee Lay-Up, Reactivation and Moorings Scope of Work (SOW)

This document contains the SOW intended to be used with the JNRC Lay-up & Moorings Warranty Endorsement (JR2019-008A) and the JNRC Reactivation Warranty Endorsement (JR2019-008B).

<b>Project</b>	
<b>Company</b>	

Activity	Criteria	Scope of Work (SOW)	Category applicable for project (Select)
General requirements	Applicable to all Lay-up and Reactivation activities	SOW 1	
Lay-up and Reactivation - 2A Lay-up - 2B Reactivation	Lay-up or Reactivation assessment, as appropriate	SOW 2A & SOW 2B	
Moorings	Applicable to all Lay-up and Reactivation activities	SOW 3	

## Scope of Work (SOW) 1

### General Requirements

Activity	Review & Approve Procedures / Drawings / Design Calculations	Attend	Issue Certificate of Approval (COA)
<b>1 General Requirements</b>			
a. Lay-up or reactivation procedures	X		
b. Standards, codes and guidelines to be used on the project	X		
c. Project organogram	X		
d. Project schedule	X		
e. Project QA / QC procedures	X		
f. Management of change procedures	X		
g. Project communication and interfaces	X		
h. Metocean criteria, including limiting sea states for all marine operations	X		
i. Weather forecasting procedures	X		
j. Master document register	X		

Scope of Work (SOW) 2A & 2B

**Lay-up and Reactivation (for floaters, jack-ups, FPSO's and offshore construction vessels)**

Activity	Review & Approve Procedures / Drawings / Design Calculations	Attend	Issue Certificate of Approval (COA)
<b>2A Lay-up</b>			
For lay-up moorings see Section 3. Moorings.	X	X	X
<b>Documentation</b>			
<p><b>Lay-up document</b> to describe:</p> <ul style="list-style-type: none"> <li>- Type of lay-up (in accordance with the definitions contained herein):               <ul style="list-style-type: none"> <li>• Idle (notification probably not required)</li> <li>• Hot lay-up</li> <li>• Warm lay-up</li> <li>• Cold lay-up</li> <li>• Long term</li> </ul> </li> <li>- Estimated duration of lay-up.</li> <li>- General security of location; Political security, physical security and future threats during lay-up period</li> <li>- Vessel details</li> <li>- Activities to be conducted during lay-up, if any such as maintenance and repairs, reconditioning, preservation</li> <li>- Contact details of Owner, port authority in case of emergency and as part of contingency arrangements</li> <li>- Name and contact details of individual responsible for lay-up</li> <li>- Lay-up Declaration/Preservation from Class</li> <li>- Statutory Certificates</li> <li>- Class:               <ul style="list-style-type: none"> <li>• Check Class Certification</li> <li>• Class lay-up notification</li> <li>• Check thickness measurements are adequate from last NDT thickness test (with reference to Class requirements)</li> </ul> </li> <li>- Port state control requirements</li> <li>- Port authority requirements</li> <li>- Prevailing weather and weather forecasting services:               <ul style="list-style-type: none"> <li>• Establish mean and maximum wind, wave and current speeds for lay-up location</li> <li>• Establish the 10 year, 50 year, 100 year return period as required depending on lay-up period in accordance with a recognised industry standard (e.g. the relevant section(s) of ISO19901-7)</li> <li>• Location of lay-up (latitude and longitude):                   <ul style="list-style-type: none"> <li>▪ Nearest port, state, country</li> <li>▪ Port, alongside a quay</li> <li>▪ Anchorage in sheltered location</li> <li>▪ Natural hazards</li> </ul> </li> </ul> </li> </ul>	X		

<ul style="list-style-type: none"> <li>▪ Mooring arrangements (including watch keeping)</li> <li>▪ River or offshore coastal</li> <li>▪ Navigation lights</li> <li>▪ Tides</li> <li>▪ Currents</li> <li>▪ Water depths (minimum under keel clearance) to be maintained throughout lay-up period</li> <li>▪ Holding ground</li> <li>▪ Is there a history of lay-up at this location?</li> <li>▪ Check for seabed condition and underwater obstructions</li> <li>▪ Vessel access method</li> <li>- Level of preservation required to include addressing:             <ul style="list-style-type: none"> <li>• Humidity</li> <li>• Preservation; level of sealing and access, cocooned equipment, removal of equipment, greasing, oiling parts, covering and protecting essential items</li> </ul> </li> <li>- Ensure loading condition of vessel is suitable for lay-up with the trim, draught and intact stability being acceptable</li> <li>- Is maintenance, repairs or modifications to be carried out during lay-up? Refer to Maintenance log, maintenance KPI's and maintenance backlog</li> <li>- Contingency plan (including requirements for specific windstorms if in hurricane/typhoon area including remote monitoring and personnel requirements etc.)</li> <li>- Risk Assessment</li> <li>- Details of marine traffic and other laid-up/moored vessels at location. Procedures to consider length and type of lay-up, quayside and navigational obstructions and level of traffic in area together with monitoring procedures</li> <li>- Emergency response procedures</li> <li>- DP if applicable: Operations Manual (vessel specific), SIMOPS procedures, ASOG</li> <li>- Power supply:             <ul style="list-style-type: none"> <li>• Shore power</li> <li>• Emergency generator</li> <li>• Vessel generators</li> </ul> </li> <li>- If manned, details of manning and watch keeping</li> <li>- Level of shore monitoring including remote GPS monitoring</li> <li>- Proximity to and potential for interaction with other vessels, jack-ups, or fixed structures</li> <li>- Proximity to sensitive areas; military, oyster beds, fish farms etc. and address potential risk of pollution</li> <li>- Perform bathymetric survey of lay-up area to determine debris, bottom slope, geohazards and underwater obstructions primarily for jack-ups but as required for other vessels</li> </ul>			
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<ul style="list-style-type: none"> <li>- For jack-ups:             <ul style="list-style-type: none"> <li>• Check soil parameters for foundations. Should be in accordance with latest JNRC Rig Move document available on the “Technical Documents” section of the JNRC webpage <a href="http://www.lmalloyds.com/committee/survey-and-engineering-sub-committee/">www.lmalloyds.com/committee/survey-and-engineering-sub-committee/</a></li> <li>• For jack-ups: Minimum air gap to be calculated. Should be calculated based on a minimum 50 year return but to be increased according to expected natural catastrophe characteristics of a specific location.</li> <li>• Spot location report for suitable return period corresponding to lay-up duration (usually 50 or 100 year return period. Minimum 10 year return period)</li> <li>• Site assessment for extreme conditions at site, including typhoons and hurricanes. Seabed survey to be conducted and calculation of predicted leg penetrations.</li> </ul> </li> <li>- Check over burden (bottom placement) capacity for floating vessels placed on seabed</li> <li>- Stowage plan during lay-up if any cargo is still on-board</li> <li>- Manning, inspection, maintenance and monitoring programme. State software used (whether or not it is approved by Class or other organisation) and provide output</li> </ul>			
<b>Site attendance</b>			
Attend for lay-up (ensuring that proposals in lay-up document implemented)		X	
Check current Class and Statutory certification (especially Class and Loadline Certificates)		X	
Check mooring arrangements and/or anchoring		X	
Check condition of anchor cables and mooring wires with respect to condition and fatigue and also periodic monitoring and adjustment		X	
Check on International Ship and Ports Facility Security (ISPS) compliance		X	
Establish level of passing traffic and location of other moored vessels with provision for the possibility of changes to traffic levels or the proximity of other laid-up vessels during lay-up period		X	
Ensure navigation lights and other relevant warnings are suitably displayed and will be maintained operational		X	
Check derrick is secured as per API requirements (especially in windstorm, hurricane/typhoon areas)		X	
Safety and security considering the type of lay-up and location		X	
Secure all loose equipment on the vessel both on deck and below, when not in use and ensure housekeeping is to a good standard		X	
Assess fouling (marine growth) and existing water pollution in vicinity		X	
Positioning, including verification of positioning requirements, anchoring and mooring calculations, DP		X	

requirements including; up to date FMEA, DP annual trials report, ASOG, DP operations manual (vessel specific), reference system setup (targets for relative references). For cable laying; use of DP and pull ahead anchors. For shallow water: thruster seabed interaction and seachest clearance.			
DP: Transition between DP and Jacked-up reference setup and handling, blind spots, forbidden thruster zones, fast currents and similar considerations. Ensure vessel has done an up to date annual DP trial (less than 12 months from previous +/- 3 months (IMCA M190). The FMEA must be less than 5 years old since last update. Applicable standards: IMO 645, MSC.1/Circ.1580, IMCA M166 in their latest revision.	X		
Installation vessel position, monitoring and control, including DP, if applicable, including position references (available measurement principles within equipment class requirements).	X	X	
FOU lay-up or reactivation using a floating vessel: Interaction of motion compensated pile gripper with DP, FMEA for the system which should include the effects of pile gripper sensor/actuator failure and the respective effect on positioning accuracy and stability.	X		
FOU installation from a floating vessel on DP: - Resonance considerations between crane and DP. - Clearance of closest point to asset.	X		
Ensure rudder(s) and propeller(s) positively blocked from turning		X	
Ensure DP system is properly preserved and shut-down		X	
Take draughts		X	
Check tanks for microbial and bacterial infestation		X	
Fendering and gangways		X	
Communications with the shore		X	
Confirm that authorities; harbour Master, port etc. know vessel is being laid up and her condition		X	
Tug availability, firefighting and safety services availability		X	
Are all topsides process piping, equipment and piping free of hydrocarbons, flushed and inerted?		X	
Make the following checks: - Machinery running hours - Last oil changes/renewals and overhauls - Inventory of unusual items on board - Compartments adequately vented and/or atmospheric condition of compartments is known - Watertight and weathertight closures shut		X	
<b>Hot and Warm Lay-up</b>			
Check qualifications and routine of all those associated with the laid-up vessel; crew on-board, watch keepers (fire fighting/first aid qualifications, familiarity with vessel, availability of emergency contacts)		X	

Establish level of machinery operation and periodic running, tanks filled, manning levels and reporting (applicable to hot and warm lay-up)		X	
Check emergency generator is operational and emergency fuel tank is full (with additional fuel available if required and stored in a safe manner) if hot lay-up		X	
Ensure auxiliary generator available and working for watch keeper or shore power available		X	
Press-up or empty compartments and take soundings to check loading arrangements meet Class and IMO stability requirements		X	
Establish that security is in place		X	
Are all compartments gas free and no explosive atmospheres present?			
Check if dry air to be pumped into accommodation		X	
Ensure delicate equipment, rotating equipment, instrumentation etc. is protected or cocooned in accordance with Original Equipment Manufacturer (OEM) recommendations or follows mothballing / preservation requirements		X	
Check bilge alarms (and other flooding alarms) are working		X	
Ensure first aid and firefighting equipment available for emergency use by watchman		X	
Establish fire detection systems are working		X	
<b>Cold lay-up</b>			
Check water tight and weather tight openings are closed		X	
Ensure ship side valves are closed and sea chests plated over		X	
Have all valuables been removed from vessel; safe, contents, radios, radar equipment, electronics and personal effects where these are portable, not required and likely to be stolen		X	
Press-up or empty compartments and take soundings to check loading arrangement meets Class and IMO stability requirements		X	
Compartments gas free and no explosive atmospheres present?		X	
Ensure perishable goods removed from vessel		X	
Ensure that medical supplies, drugs and medicines are removed or adequately secured		X	
Removal of loose flammable and combustible materials		X	
Are all compartments gas free and no explosive atmospheres present?		X	
Check bilge alarms (and other flooding alarms) are working and monitored remotely if in cold lay-up		X	
Ensure delicate equipment protected or cocooned as required		X	
Establish planned boarding and inspection frequency	X		
Security ashore (if alongside monitoring of moorings, location security from seaward and landward or remote monitoring from ashore if in cold lay-up at an anchorage, for instance)		X	
<b>Additional requirements for jack-ups</b>			
Perform location assessment or SSA as per latest JNRC Rig Move Document available on the "Technical Documents" section of the JNRC webpage	X		X

<a href="http://www.lmalloyds.com/committee/survey-and-engineering-sub-committee/">www.lmalloyds.com/committee/survey-and-engineering-sub-committee/</a>			
For jack-ups: Ensure jacking system and its hydraulic components are periodically maintained in accordance with the adopted Maintenance Programme / OEM recommendations		X	
Additional requirements for jack-ups being laid-up in a cluster	X	X	
<b>Attend to confirm lay-up in accordance with requirements</b>			
Attend for lay-up		X	
<b>Approve for lay-up (re-issue periodically if required)</b>			X

Activity	Review & Approve Procedures / Drawings / Design Calculations	Attend	Issue Certificate of Approval (COA)
<b>2B Reactivation</b>			
<b>Documentation</b>			
Confirm Class has been maintained or reinstated	X		
Confirm Statutory Certificates have been maintained or reinstated	X		
Confirm Trim and Stability Manual still approved and valid	X		
Establish new crew's qualifications and competence levels and that manpower is adequate	X		
Establish level of reactivation required. Vessel may reactivate to a different trade, different area of operation or to a field requiring specific requirements. Reactivation is to consider these factors with respect to reactivating existing equipment and adding new equipment as required	X		
Ensure that sufficient time is allowed for mechanical, hydraulic and electrical systems to warm-up such that any failures are in a safe environment		X	
Ensure that sufficient time is allowed for training personnel unfamiliar with the vessel (if they are extremely unfamiliar with the vessel comprehensive training on equipment and procedures will be required)		X	
Class Reactivation Survey Report, Reactivation Procedure, Diving inspection reports of sea chest and hull to be provided (especially for units laid-up longer than 12 months)	X	X	
Lubricating oil samples to be sent for analysis and acted upon depending on reported results	X	X	
<b>Attendance</b>			
Ensure housekeeping acceptable: walkways and corridors free of debris, hazardous material correctly stowed; grease, oil and dirt cleaned up; rig clean and tidy		X	
Depending on the level of lay-up fire and safety systems are to be re-established, upgraded, activated and tested before any work takes place; to include alarms and detectors throughout vessel or rig and emergency lighting		X	
Ensure that medical supplies are re-instated or made accessible		X	
Gas free Certificate to be issued for enclosed areas	X	X	
Check machinery running hours and fuel soundings (taken when laid up) against readings at time of reactivation and account for any differences		X	
Preservatives and inhibitors are to be removed together with chemicals, packing and cocooning or similar		X	
Pump and clean bilges of all liquids and debris and visually check		X	
Chemicals and other hazardous materials to be correctly stowed		X	
Check stability of vessel; take draughts, tank soundings, estimate weight changes etc. Calculate new stability condition and check in accordance with Class and IMO requirements	X	X	
Establish underwater condition of vessel by dry-docking or diving survey		X	
Check anode depletion		X	

Activity	Review & Approve Procedures / Drawings / Design Calculations	Attend	Issue Certificate of Approval (COA)
Visually check the following: <ul style="list-style-type: none"> <li>- Classification and Statutory requirements:               <ul style="list-style-type: none"> <li>• Anchor, chain and fairleads</li> <li>• Sea chests (using divers) and other underwater openings</li> <li>• Inspect tanks, void spaces and cofferdams</li> <li>• Condition of potable water tanks</li> <li>• Pump room(s)</li> </ul> </li> <li>- Drilling system requirements:               <ul style="list-style-type: none"> <li>• All drilling equipment e.g. mud pumps, shale shakers, control equipment etc.</li> </ul> </li> </ul>		X	
Test functioning of equipment including: <ul style="list-style-type: none"> <li>- Check that all control systems and equipment reliant upon software is using the latest software updates and there is an adequate firewall and computer security system installed</li> <li>- Emergency generator</li> <li>- Anchor winches</li> <li>- Load line items: Watertight and weather tight doors, winel heads, sounding pipes and ventilation ducts, hatch covers and other openings</li> <li>- Test main machinery</li> <li>- Open up all prime movers and gearboxes and check lube oil levels and test lube oil for particles</li> <li>- Test generators</li> <li>- Test pumping arrangements for ballasting, lube oil, fuel and fire</li> <li>- Test piping systems under working pressures</li> <li>- Leg jacking system (for jack-ups)</li> <li>- Drilling derrick and associated equipment including drawworks, tensioners, rotary table, crown block gear</li> <li>- Navigation equipment</li> <li>- Communications systems</li> <li>- Each system that reactivated is to be separately examined, flushed and tested</li> <li>- Re-certify lifting equipment and lifting gear with colour codes</li> <li>- Re-certify firefighting plant and portable extinguishers</li> </ul>		X	
Specialised equipment to be separately tested and certified. Such equipment to include: <ul style="list-style-type: none"> <li>- Boilers</li> <li>- BoP stack</li> <li>- Instrumented safety critical equipment.</li> <li>- Critical ESD valves</li> <li>- Drilling derrick braking systems</li> <li>- All lifting gear</li> <li>- Tensioners (both in drilling derrick or for pipeline)</li> <li>- Electrical systems to be fully checked by qualified electricians to include mega tests, circuit breakers, blackout tests, trip tests, insulation</li> </ul>	X		

Activity	Review & Approve Procedures / Drawings / Design Calculations	Attend	Issue Certificate of Approval (COA)
tests and general examination of all electrical systems			
Confirm chemical analysis for contaminants and bacteria of: <ul style="list-style-type: none"> <li>- Boiler water</li> <li>- Hydraulic and lub. oil fluids</li> <li>- Potable water (if any still in tanks)</li> </ul>	X		
If required (as a result of repairs, manufacturer's instructions or for testing operability) to fully test the running of main and auxiliary machinery, DP systems, pumps, other equipment and to establish the efficient running of a vessel, sea trials may have to be conducted		X	
Before reactivation condition of windlass or winch; winch brake, foundations, gears, motor, wires and/or chain etc. are to be verified as being in good condition		X	
Ensure essential documentation, Certificates and publications are on-board and up to date	X	X	
Additional requirements for reactivation of jack-ups previously laid-up in a cluster	X	X	
For jack-up departure (on going off location) refer to latest JNRC Rig Move Document available on the "Technical Documents" tab of the JNRC webpage <a href="http://www.lmalloyds.com/committee/survey-and-engineering-sub-committee/">www.lmalloyds.com/committee/survey-and-engineering-sub-committee/</a>	X		
<b>Attend to confirm reactivation as per requirements</b>			
Attend for re-activation		X	
<b>Approve for re-activation.</b>			X

Activity	Review & Approve Procedures / Drawings / Design Calculations	Attend	Issue Certificate of Approval (COA)
<b>3 Moorings</b>			
<b>Documentation</b>			
<p><b>Mooring analysis to state:</b></p> <ul style="list-style-type: none"> <li>- Details of moored vessel</li> <li>- Design criteria for moorings stating return period</li> <li>- Design environmental conditions for return period</li> <li>- Calculation method and results according to requirements of applicable standard including at least mooring line loads and clearances and vessel excursion and clearances for all directions of stated environmental conditions (intact and one line damaged conditions).</li> <li>- Mooring line make-up and drawing of mooring spread including anchors and vessel positions for duration of lay-up, clearly marking subsea structures, pipelines, cables and exclusion zones etc</li> <li>- Site specific mooring analysis</li> <li>- Reference and application of good recommended practice documents such as:               <ul style="list-style-type: none"> <li>• BS EN ISO 19901-7</li> <li>• API RP 2SK</li> <li>• DNV-OS-E301 (supersedes POSMOOR '96)</li> <li>• Lloyd's Register Rules for Classification Floating Units at Fixed location – Part 3</li> <li>• ABS Rules for Building and Classification of MODUs</li> <li>• ABS Rules for Building and Classification of Floating Production Installations</li> <li>• DNVGL-ST-N001 (formerly Noble Denton 0032/ND Guidelines)</li> <li>• HSE OTO 2001/050</li> </ul> </li> </ul>	X		
<p><b>Mooring manual to describe:</b></p> <ul style="list-style-type: none"> <li>- Type of moorings: Suggested default FoS; if not recognised Code used:               <ul style="list-style-type: none"> <li>• Long term moorings alongside: (FoS =&gt;2.0)</li> <li>• Long term in anchorage: (FoS =&gt;3.0)</li> <li>• Long term moorings offshore: (FoS =&gt;3.0)</li> <li>• Short term moorings alongside: (FoS =&gt;2.0)</li> <li>• Short term in anchorage: (FoS =&gt;2.0)</li> <li>• Short term moorings offshore: (FoS =&gt;3.0)</li> </ul> <i>Unless FoS is used as defined in recognised standards; suggest the default FoS is used.</i> </li> <li>- Vessel details</li> <li>- Weather forecasting</li> <li>- Describe proposed location</li> <li>- Describe mooring arrangements: Mooring arrangement and pattern, make up, fendering, pre-tensioning, anchoring system, bollards and their capacity and type of chain and/or rope</li> <li>- Calculate lowest water level expected and minimum underkeel clearance for duration vessel is moored taking into consideration:               <ul style="list-style-type: none"> <li>• Tide</li> </ul> </li> </ul>	X		

<ul style="list-style-type: none"> <li>• Current (squat)</li> <li>• Sag/hog of vessel</li> <li>• Protrusions on hull (such as anodes, thrusters, rudder etc.</li> <li>• Salinity</li> <li>• Heel</li> <li>• Environment</li> <li>• Draught</li> <li>• Dredged depth</li> </ul> <ul style="list-style-type: none"> <li>- Describe how moorings will be deployed: <ul style="list-style-type: none"> <li>• If alongside: Mooring gang, boats required, messenger lines, balanced moorings, pre-tension requirements and procedures</li> <li>• If offshore: Number and power of tugs, bottom securing (piles or anchors), buoys for crossings, pre-tension requirements and procedures</li> </ul> </li> <li>- State regularity of mooring checks; this should be specified in a Mooring Monitoring Integrity and Testing Plan which should include mooring line tension monitoring and chaff mitigation</li> <li>- Inspection, monitoring and maintenance plan documentation for long term lay-up</li> <li>- Emergency response plan</li> <li>- Contingencies for line failure, unplanned excursion, most probable direction of drift, gangway security etc.</li> </ul>			
<b>Site attendance</b>			
Inspect rope Certification		X	
Inspect Certification of all other mooring components and connection points		X	
Attendance to include: <ul style="list-style-type: none"> <li>- Condition of mooring equipment, including ropes (and age and level of UV protection if nylon)</li> <li>- Verify bathymetric survey results (water depths and tidal accuracy)</li> <li>- Rat guards in place</li> <li>- Securing arrangements ashore; bollard spacing and capacity, effectiveness of crossed lines, obstructions with other mooring lines</li> <li>- Check on number, required capacity and condition of fenders</li> <li>- Offshore mooring lines to be buoyed over each crossing of a pipeline or cable, or similar</li> <li>- Mobile cranes to lift ropes in place</li> </ul>		X	
Confirm (or otherwise) that vessel will never be aground during period of approval		X	
Mooring rope chaffing protection		X	
Ensure there is a capability to pre-tension the moorings at the lay-up location and that the required pretensions are applied		X	
Verify the capacity of all quayside facilities including acceptable quayside loading, holding capacity of mooring bollards along quayside, fenders and floating buoys at an anchorage checking the results of recent load tests		X	
If alongside ensure bollard (including quay foundations), fenders and their capacity is acceptable and demonstrated to be so by certification and / or design		X	

Before reactivation condition of windlass or winch; winch brake, foundations, gears, motor, etc. are to be verified as being in good condition		X	
Details of active marine traffic and other laid-up/moored vessels at location		X	
Establish how protected and safe the anchorage or berth is		X	
Establish regularity of mooring checks and instigate a Mooring Integrity Monitoring and Testing Plan, which should include mooring line tension monitoring and chaff mitigation etc.		X	
General security and monitoring arrangements, especially alongside in tidal waters, should be instigated with those responsible for security implementing the Mooring Integrity Monitoring and Testing Plan		X	
Check seabed condition for obstructions and anchor holding capacity		X	
Establish order in which mooring lines to be installed		X	
Contingency plans in the event of mooring line failure/damage	X	X	
Attend mooring installations		X	
<b>Approve moorings</b>			X

**Key:**

X Denotes activity to be performed

## Appendix 1: Lay-up definitions

This Appendix aims to coarsely quantify lay-up in terms of the most important areas requiring attention for lay-up and to define lay-up types.

The categories identified as being most important are as follows:

- crewing levels
- machinery
- moorings
- safety systems
- navigation systems
- location
- maintenance
- security

A scale of 1 to 4 has been used as defined in the table below. This table shows ratings on a relative scale to give an indication of the severity of the requirements for each lay-up category. This may assist when trying to define when a vessel or rig transitions from one category to another.

There are no statutory definitions of the types of lay-up. Those generally encountered are as follows:

- **Idle**
  - Temporarily alongside or at anchor
  - Vessel essentially fully active
- **Hot lay-up (less than 3 months)**
  - Reactivation period: < 48 hours
  - Vessel taken out of service
  - Actually fully operational, i.e. can be put in service without any special preparations
  - Full or reduced crew on-board
  - Usually at anchorage, or layby berth (or occasionally in the field)
  - Applied, when vessel is waiting for the next contract
- **Warm lay-up (3 months to 12 months)**
  - Reactivation period: about 1 week
  - Vessel not in operation for up to 12 months
  - Systems left running as per normal
  - Manned 24 hours a day (number of crew can be reduced)
  - Often located near potential future work
- **Cold lay-up (more than 12 months to 5 years)**
  - Reactivation period: 3-8 weeks
  - Vessel not in operation for more than 12 months
  - Machinery taken out of service with the exception of emergency power
  - Extensive pre lay-up work required usually including equipment vendor participation
  - Manning in line with emergency and preservation requirements only
- **Long term lay-up (more than 5 years)**

- Reactivation period: 2 months plus
- Vessel not in operation for more than 5 years
- Machinery taken out of service
- Manning in line with emergency and preservation requirements only
- Extensive pre lay-up work required usually including equipment vendor participation
- Popular to raft long term vessels to further reduce manning preservation costs. The extent to which vessels are rafted will depend on location and type of vessel

**Notes:**

1. Hot stacked can sometimes extend beyond 3 months encroaching into the Warm stack definition.
2. A potential conflict arises as to whether the mode of lay-up refers to the length of time a vessel is laid-up or its condition. Generally these coincide but for the purposes of this SOW the condition under which a vessel is laid-up governs and the length of time is secondary and provided here for an indication only.
3. If the vessel is not maintained in Class and her Statutory Certificates have expired during lay-up it would be expected that, upon reactivation, the vessel will have Class re-instated, her Statutory Certificates will be renewed and the vessel will be seaworthy in all respects.

**4. Stacked and Laid-up.**

For the purposes of this SOW Stacked and Laid-up refers to the same condition. However, generally stacked refers to an offshore rig (MOU such as a jack-up, semi-submersible or construction barge) whereas laid-up generally refers to a ship shaped vessel which could also include drillships, seismic vessels, smaller support ships and non-offshore related vessels.

**5. Manned lay-up:**

This type of lay-up has been encountered and lies in between Warm lay-up and Cold lay-up.

**6. Smart stacking:**

Operationally comparable to Hot Stacking:

- All equipment is kept in hot condition and periodically tested.
- Minimum crew of about 15 is retained on board to maintain Class and perform maintenance.
- 90 day back to work list is continuously monitored to ensure ramp up will be executed in the time frame required.
- "Marketing crew" maintained for immediate deployment to any contract rig.

**Pre-smart stacking (ramp down)**

- Initial stage critical to eventual ramp up.
- Total top down cleaning of rig.
- Comprehensive equipment health check is performed:
  - 1 year Preventative Maintenance System (PMS) routine performed at minimum for all equipment.
  - 5 yearly PMS routine performed on all drilling equipment.
  - Any PMS routines due in next 2.5 years are performed.

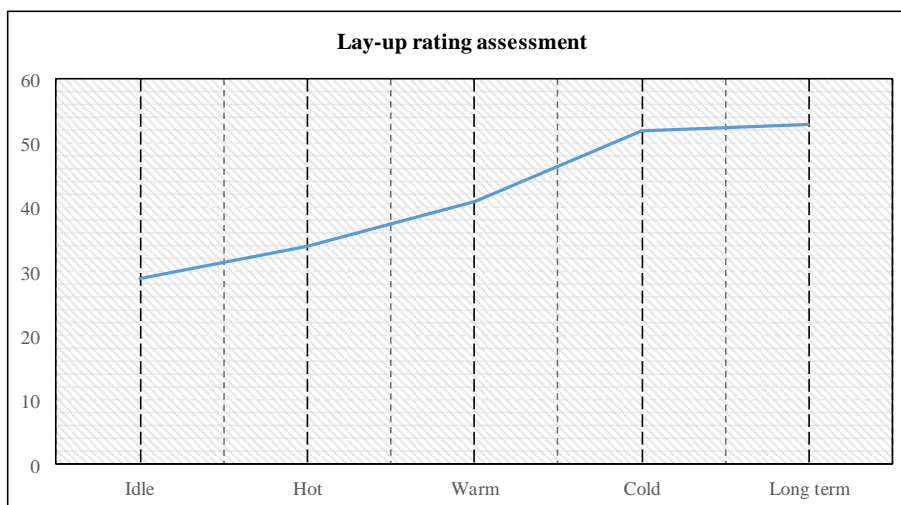
### Post-smart stack (ramp up)

- 90 day ramp up includes mobilisation, country specific approval/permits and 3rd party installation.
- Crew ramp up assemblies full rig crew and includes refresher training and maintenance.
- Maintenance routines are reactivated to operational mode.
- Drilling simulation tests and client acceptance testing are performed.

Status	Idle	Hot	Warm	Cold	Long term
Period	Temporarily alongside fully active	0 - 3 months	3 - 12 months	12 months to 5 years	More than 5 years
Recommissioning time	Immediate	< 48 hours	< 1 week	> 3 - 8 weeks	> 2 months
Crew	Full Crew	1	2	3	4
	Marine/maint only	1	1	2	3
	No. crew	4	4	3	2
Machinery active	Main	1	3	3	4
	Auxiliary	1	2	2	4
Mooring	Long term	4	3	1	1
	Short term	1	1	3	4
Safety	Systems	1	1	2	4
Navigation	Systems	1	2	3	4
Location	Sheltered	4	3	2	1
	Coastal	1	2	3	4
	Offshore	1	1	4	4
Maintenance	Full	1	1	2	3
	Partial/essential	1	1	1	2
	None	4	4	4	4
Security	Full	1	2	2	3
	Partial	1	1	1	1
<b>Rating</b>	<b>29</b>	<b>34</b>	<b>41</b>	<b>52</b>	<b>53</b>

1	Required/mandatory	As for full seagoing
2	Mostly required	Mostly available
3	Mostly not required	Mostly unavailable
4	Not required	Not available

Status	Average rating	Min	Max
Idle	29	-	32
Hot	34	32	38
Warm	41	38	47
Cold	52	47	53
Long term	53	53	-



**Table 1: Summary of lay-up definitions**

## Appendix 2: Warranty clauses

### 1a. Lay-up

Lay-up Location and Survey Requirements as per JH2009/003 (22nd May, 2009) is as follows:

#### Lay-up Location and Survey Requirement

*As a condition precedent to the liability of the Underwriters hereon, the vessel shall not be laid-up unless:*

- 1. the port or place to be used for the purpose of lay-up shall have been agreed in writing by the Underwriters*
- 2. such port or place and the arrangements for the lay-up shall have been or are surveyed by an MWS agreed in writing by the Underwriters, such survey to be carried out within 14 days of the date specified by Underwriters*
- 3. all recommendations made by the surveyor shall be complied with within the timescales set down by the MWS or continuously complied with throughout the period of this insurance in the case of recommendations said by the MWS to require continuing compliance*

#### Cost of Survey

*All survey costs to be borne by the assured.*

#### Returns of Premium

*Where the insurance provides for lay-up returns of premium, such returns will not be made until the surveyor's recommendations are complied with.*

### 1b. Reactivation

The Reactivation Warranty as per JH2009/002 (22nd May, 2009) is as follows:

#### Reactivation Warranty

*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 an MWS approved by Underwriters have examined the vessel and all repairs and other works required by the classification society and the MWS have been carried out prior to the vessel leaving her lay-up berth.*

## Abbreviations

API	American Petroleum Institute
ASOG	Activity Specific Operating Guidelines
BoP	Blowout Preventer
BS	British Standard
CoG	Centre of Gravity
COP	Code of Practice
DP	Dynamic Positioning
ESD	Emergency Shut-Down valve
FMEA	Failure Mode and Effect Analysis
FoS	Factor of Safety
FOU	Floating Offshore Unit
GPS	Global Positioning System
HLV	Heavy Lift Vessel
HSE	Health and Safety Executive
IMO	International Maritime Organisation
ISO	International Standards Organisation
ISPS	International Ship and Port Facility Security
JNRC	Joint Natural Resources Committee
JSA	Job Safety Analysis
MODU	Mobile Offshore Drilling Unit
MOU	Mobile Offshore Unit
NDT	Non Destructive Testing
OEM	Original Equipment Manufacturer
QA/QC	Quality Assurance/ Quality Control
SIMOPS	Simultaneous Operations
SOW	Scope of Work
SSA	Site Specific Assessment
UV	Ultra Violet