

MARINE WARRANTY SURVEY

- 1) Coverage under this Policy for project activities is conditional upon:
 - a) A Marine Warranty Surveyor being appointed by the Assured from the following panel

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on or before __ /__ /__²; and

- b) Issuance of the Certificates of Approval (C of A's) by the Marine Warranty Surveyor for each operation as specified in the Generic Scope of Work (GSOW) contained herein or the Project Specific Scope of Work (PSOW) explicitly agreed by Underwriters.

A kick off meeting is required Yes/No³

- 2) It is the duty of the Assured to procure the compliance with all recommendations, requirements or restrictions of the Marine Warranty Surveyor within the specified timescales. In the event of a breach of this duty, Underwriters will not be liable for any loss, damage, liability or expense arising from or contributed to by such breach.
- 3) The Marine Warranty Survey shall be conducted in accordance with the Marine Warranty Surveyor Code of Practice (CoP) and the GSOW contained herein (or the Project specific Scope of Work (PSOW) as agreed by the Contract leader(s)).

A material change to the project will require a review of the Scope of Work.

- 4) The cost of the Marine Warranty Survey will be borne by the Assured.
- 5) Any expenses incurred to comply with the Marine Warranty Surveyor's recommendations will be solely at the expense of the Assured.
- 6) The Marine Warranty Surveyor shall not be restricted from furnishing information to or consulting in an unrestricted manner with Underwriters.
- 7) Underwriters shall be entitled to receive a copy of any recommendations and/or reports directly from the Marine Warranty Surveyor.

¹ Names of MWS Companies to be inserted

² Date to be inserted

³ Circle required option.

Joint Rig Committee Marine Warranty Surveyors' Code of Practice (CoP) 2010

This CoP has been produced in order to establish agreed standards for Marine Warranty Surveyors' performance while conducting Marine Warranty Surveys.

It has the following objectives:

To:

- Clarify the role of the Marine Warranty Surveyor.
- Define the function of the Marine Warranty Survey Scope of Work.
- Outline approval criteria for Marine Warranty Surveying activities.
- Establish minimum standards for Marine Warranty Surveyor performance.
- Define lines of communication between Underwriters and the Marine Warranty Surveyor.

Nothing in this CoP shall relieve any party of any legal obligations existing in the absence of this document. The Code of Practice outlines the obligations for the Marine Warranty Surveyor, the Assured & the Underwriter.

The Code of Practice includes a Generic Scope of Work (GSOW) in tabular format. A tailored Project Specific Scope of Work (PSOW) may be substituted for the GSOW with the explicit agreement of Underwriters.

1 Role of the Marine Warranty Surveyor

1.1 The fundamental objective of the Marine Warranty Surveyor 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 Marine Warranty Surveyor Company will only appoint personnel who are demonstrably competent, in terms of qualifications and experience, to perform the review/approval activity being undertaken in accordance with the Marine Warranty Scope of Work.

1.3 The Marine Warranty Surveyor will be satisfied, so far as possible, that the operations are conducted in accordance with:

- recognised codes of practice for design and operations;
- best industry practice appropriate for the vessels, equipment and location;
- vessels and equipment being used within defined safe operating limits.

1.4 The Marine Warranty Surveyor will make available to Underwriters:

- an opinion on the adequacy of the Marine Warranty Scope of Work;
- particulars of the experience of the key personnel to be engaged;
- a schedule of actual and proposed site attendances;
- a schedule of Certificates of Approval to be issued.

1.5 The Marine Warranty Surveyor shall perform a review of the relevant documentation in accordance with the requirements of Item 1.3 above relating to the proposed operations within the Marine Warranty Scope of Work including, but not limited to:

- calculations;
- drawings;
- procedures;
- certificates;
- manuals;
- relevant reports.

1.6 The Marine Warranty Surveyor shall carry out suitability surveys of vessels, structures and equipment prior to each operation, including any required follow up "close out" inspections unless otherwise defined in the Marine Warranty Scope of Work, and shall:

- establish that the relevant items are suitable for the proposed operations;
- make known, in clear terms, in writing to the Assured the recommendations to be implemented prior to commencement of the proposed operations;
- make known, in clear terms, in writing to the Assured the recommendations to be implemented during the period of the proposed operations;
- review metocean conditions and, where appropriate, incorporate requirements as to metocean conditions in the recommendations in the Certificate(s) of Approval;
- observe and record the preparations for the proposed operations;
- attend and witness critical function tests or relevant assurance tests.

1.7 Subject to the Marine Warranty Surveyor being satisfied that the objectives outlined under Items 1.1 above will be met, the Marine Warranty Surveyor will issue a Certificate of Approval. The Certificate of Approval will clearly identify:

- the operation to be carried out;
- the vessel(s) to be used;
- recommendations to be satisfied during the period of the proposed operations within the Marine Warranty Scope of Work. Recommendations issued for the Assured's implementation should be targeted to reduce risk to Underwriters and worded in a clear and explicit manner and whether the recommendation has been implemented or not should be capable of being objectively verified.

1.8 The Marine Warranty Surveyor will:

- advise Contract leader(s) when a confidentiality agreement with the Assured is in place which would preclude the exchange of information or communication with Contract leader(s);
- not provide any other services to the Assured and/or Operator and/or Main Contractor(s) and/or Sub Contractor(s) that could present a conflict of interest with the Marine Warranty Work, for example:
 - i) **Marine or Design Consultant 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.
 - ii) **Loss adjuster**
 - iii) **Classification Authority**
 - iv) **Verification**

1.9 The Marine Warranty Surveyor will immediately advise Contract leader(s), with a copy to the Assured:

- if any Certificate of Approval is withheld; or a Non Conformance Certificate issued;
- if the Assured fails to comply with any recommendations made by the Marine Warranty Surveyor;
- of any proposed changes to relevant key personnel employed by the Marine Warranty Surveyor.

1.10 The Marine Warranty Surveyor will issue the following status reports to the Contract leader(s) direct at key risk milestones:

- the marine warranty survey activity carried out in the period;
- the marine warranty survey activity planned prior to the next risk milestone;
- copies of Certificate(s) of Approval issued since the last report.

If the Assured has provided insufficient information to perform a comprehensive review or the Marine Warranty Surveyor's questions/requests for information remain pending, then the Marine Warranty Surveyor shall make this clear in his reports to Underwriters and outline the potential implications of the omissions.

1.11 All equipment and vessels associated with load-out, transportation and installation activities shall be fully operational and used within their safe working limits, which shall be agreed by the Marine Warranty Surveyor. All vessels (including offshore cranes, pipelay vessels, rigs and floatels) to be in IACS Class. Marine Warranty surveyor to agree all outstanding Class items as not material to intended operations. Marine Warranty surveyor to approve limiting metocean criteria, and weather windows for all marine operations.

2 Role of the Assured

2.1 Once appointed on the project the Marine Warranty Survey Company shall not be changed without the express and prior agreement of the Contract leader(s).

2.2 The Assured shall provide the Marine Warranty Surveyor with a point of contact for the Contract leader(s) and an appropriate point of contact in the Assured's organisation to assist with the resolution of queries.

2.3 The Assured will provide Contract leader(s) with the contact details of the Marine Warranty Surveyor(s) within 14 working days following appointment of the same.

2.4 The Assured will provide the Marine Warranty Surveyor(s) with the contact details of Contract leader(s) within 14 working days following appointment of the same.

2.5 The Assured shall procure Marine Warranty Surveyor participation at all relevant project management meetings, including marine operation HAZOPs/HAZID, contingency planning and assurance/testing plans.

2.6 The Assured shall contract the Marine Warranty Surveyor directly (without the involvement of any contractor or intermediary) unless required to enable compliance with the law in the jurisdiction or government regulations.

2.7 The Assured shall appoint a single Marine Warranty Survey Company for the entire scope of work herein.

3 Role of the Underwriters

3.1 The Panel of Marine Warranty Surveyors is to be agreed by the Contract leader(s).

Other additions to the panel will need to demonstrate their capability/ experience of similar projects and water depths, and to be agreed by the Contract leader(s).

3.2 On each project Underwriters will specify whether a Kick Off meeting is required between Underwriters, the Assured and the Marine Warranty Surveyor. The Assured, Contract leaders and Marine Warranty Surveyor shall agree key risk milestones and date(s) for a joint review of the project scope and development.

3.3 At the request of the Marine Warranty Surveyor, Underwriters will make available:

- The PSOW, otherwise the GSOW to be used;
- relevant applicable policy terms and conditions including, in particular, any warranty provisions or conditions precedent;
- identity and contact details (including telephone, e - mail, fax and out of hours numbers) of the nominated Contract leader(s) to receive communications from the Marine Warranty Surveyor.

GENERIC SCOPE OF WORK (GSOW)

Project Activity	Review and approve: 1 Procedures 2 Dwgs 3 Design Calcs 4 Analysis	Attend	Issue Certificate of Approval
GENERAL ACTIVITIES			
Meteocean criteria, including limiting seastates, for all marine operations.	X		
Weather forecasting procedures	X		
Weight reports and weight contingency factors	X		
Procedures for use of installation vessels /equipment inc. ROVs, ROV tooling, pile hammers, etc.	X		
Tow routes/passage plans / fuelling plans and safe havens	X		
Loadout Manual(s) including ballast plan, quay strength, vessel strength and intact and damaged stability.	X		
Transportation Manual(s) including bollard pull requirements, vessel strength and intact and damaged stability.	X		
Installation Manual(s) including installation vessel thruster reliability and operational procedures, station keeping/mooring arrangements	X		
HUC and Project handover	X		
Sufficiency of data acquisition & testing for soil/rock mechanics and geotechnical parameters at proposed locations for foundations of all installations.	X		
Adequacy of structures to withstand loads during loadout, tow and installation operations	X		
Design codes and recommended practices	X		
Project QA/QC procedures	X		
Management of Change procedures	X		
Project Communications and Interfaces	X		
Installation vessels suitability surveys	X	X	
Tugs / barges suitability surveys	X	X	
Emergency contingencies	X		

Project Phase	Review & Approve 1. Procedures 2. Dwgs. 3. Design Calcs. 4. Analysis	Attend	Issue Certificate of Approval

FIXED PLATFORMS			
a) Fabrication and Loadout			
Barge and cargo stability	X		
Ballasting system and procedures	X		
Barge anchored whilst loaded and mooring during loadout / loaded (incl. Fendering)	X		
Motive power systems (winches, trailers, etc)	X		
Structural strength of skidding system or trailers	X		
Link beam/bridge design	X		
Rigging and lift point design	X		
Capability and certification of cranes	X		
Grillage structural checks	X		
Water depth, tidal limitations	X		
Certification of all loadout equipment	X		
Emergency contingency plans	X		
Ballast system trials		X	
Loadout operation		X	X
b) Transportation			
Procedure for departure (incl draft, tidal, environmental limits)	X		
Motion Response analysis	X		
Grillage and Seafastening design, including Fatigue design considerations (incl NDT documentation)	X	X	X
Firefighting, Life saving and emergency equipment for manned tows	X	X	
Emergency anchors and mooring including, mounting and release system.	X		
Internal seafastenings / voyage protection	X	X	X
Cargo towage / Transportation	X	Attend Sailaway	Issue C of A for Sailaway

Project Phase	Review & Approve 1. Procedures 2. Dwg. 3. Design Calcs. 4. Analysis	Attend	Issue Certificate of Approval
c) Installation			
Site/seabed survey and water depth	X		
Jacket launch system and equipment	X	X	X
Jacket Launch operation	X	X	X
Jacket upending	X	X	
Template docking	X	X	
Jacket on-bottom stability	X		
Jacket buoyancy tank removal	X		
Static and dynamic hook load calculations (single and dual crane lifts) including lifting through water considerations. The independent lifting calculations performed shall include environmental limitations and be in accordance with the approved crane(s) curves. All lifting factors shall be approved by MWS	X		
Lifting equipment design and certification	X		
Jacket Installation (inc. Hydrostatic Collapse Check)	X	X	X
Integrated deck / MSF / Module Lift / Floatover	X	X	X
Lift points	X		
Bumpers and guiding systems	X		
As-built dimensions of jacket/module interfaces	X		
Piling calculations, analysis and Installation Manuals	X	X (extent of attendance during piling to be agreed)	
Installation vessel position monitoring/control	X		
Crane suitability - Crane(s) to be inspected prior to lifting operations taking place. This inspection shall include but not be limited to; Crane Certification and Vessel Class; operating history, maintenance and repair records for Crane and Marine systems ; An external	X	X	

Project Phase	Review & Approve 1. Procedures 2. Dwgs. 3. Design Calcs. 4. Analysis	Attend	Issue Certificate of Approval
visual examination of the Crane(s) and Vessel.			
Floating Cranes DP & Ballast systems trials	X	X	X
Tug configuration	X		
Emergency contingencies	X		
Launch preparations including seafastening removal and barge ballasting	X	X	X

Project Phase	Review & Approve 1. Procedures 2. Dwg. 3. Design Calcs. 4. Analysis	Attend	Issue Certificate of Approval
FLOATING STRUCTURES			
a) Fabrication and Sailaway			
Vessel condition		X	
Mooring adequacy in yard (to withstand natural hazard exposures e.g. typhoons)	X	X (Attend to confirm installed mooring)	X
Cargo stowage and securing	X	X	X
Structural strength/fatigue	X		
Towing equipment	X	X	
Dry transport vessel suitability	X	X	
Vessel Sailaway		Attend Sailaway	Issue C of A for Sailaway
b) Transportation			
Certification and documentation	X		
Transportation route and weather conditions	X		
Bunkering	X		
Tug or propulsion systems	X	X	
Stability, ballasting and watertight integrity	X		
Vessel Motions	X		
Seakeeping/heading control	X		
Navigation lights and shapes	X		
Emergency contingencies and equipment (incl. safety equipment)	X	X	
Communications and navigational equipment	X	X	
Manning	X		
c) Installation			
Installation - anchors and mooring system	X	X	X
Station keeping - Mooring/DP/Tethers	X		
Hook up with infrastructure	X	X	X
Lifting equipment design and certification	X		
Module Lifts at offshore site	X	X	X

Project Activity	Review and approve: 1 Procedures 2 Dwgs 3 Design Calcs 4 Analysis	Attend	Issue Certificate of Approval
RIGID PIPELINES			
a) Fabrication and Load-out			
Pipe joint/reel storage and handling	X	X	X
Pipe loading and uploading		X	X
Pipe barge sailaway		X	X
b) Transportation			
Seafastenings	X	X	X
c) Installation			
Start-up and Termination	X	X	X
Installation aids - DMA, A & R head	X		
Assess pipelay equipment and machinery for adequacy. Witness tensioner calibration.	X	X	X
Pipelay Vessels DP Trials	X	X	X
Pipelay (including lay, expansion, stability and free-span analysis)	X	X (Underwriters will stipulate if full attendance is required)	X
Pipeline Installation Analysis (To be reassessed if configuration changes i.e. stinger changes)	X		
Laydown (including preservation procedures for long laydowns and met ocean criteria for commencement of temporary laydown)	X	X (If laydown period anticipated to exceed 1 month)	X
Buckle avoidance and detection strategy inc. pipeline tension, load cell calibration, and D/t limitations.	X		
Field joint coating	X		
Crossings	X	X	X
Trenching and backfilling	X	X	X
Slope stabilisation, mattress protection, rock dumping	X		
Tie-in	X		
Shore approach/pull-in design including dredging and backfilling.	X		
Horizontal Drilling at shore approach	X		
Cleaning and Gauging	X	X	
Pressure testing procedure	X	X	X
Contingencies including - Abandonment and recovery and Dry/Wet buckle	X		

Project Activity	Review and approve: 1 Procedures 2 Dwgs 3 Design Calcs 4 Analysis	Attend	Issue Certificate of Approval
SUBSEA EQUIPMENT, UMBILICALS, FLOW-LINES and RISERS			
a) Fabrication and Load-out			
Manufacturers reeling/spooling	X	X	X
Load-out	X	X	X
b) Transportation			
Transportation including sea-fastening	X	X	X
c) Installation			
Installation lines (Including Static and dynamic analyses for all flexible umbilical, flow-lines and risers)	X	X	X
Ancillary items such as buoyancy modules, VIV strakes and clamps.	X		
On-bottom stability, crossing, slope stability, free-spans	X		
Suction piles (foundations/anchors)	X	X	X
Installation equipment (lifting and lowering), docking and positioning analyses)	X	X	X
Pipe spool, jumper installation	X	X (For Deepwater > 500m)	X (For Deepwater > 500m)
Manifold/ tree and other hardware installation	X	X	X
Temporary installation aids, rigging etc.	X		
Riser/umbilical / power cable pull-in.	X	X	X
Riser installation at platform / FPSO	X	X	X
Hook-up, commissioning and project handover. Including hydrotests.	X		
Contingency procedures for recovery of damaged subsea components	X		
QA/QC non-conformance reports	X		

Project Activity	Review and approve: 1 Procedures 2 Dwgs 3 Design Calcs 4 Analysis	Attend	Issue Certificate of Approval
VESSEL ACTIVITY DURING CONSTRUCTION PERIOD			
a) All Project Vessels (Inc. Semi-Sub Rigs and Flotels)			
Anchoring if within 500m of Project Facilities (Platforms, Templates / Manifolds / Pipelines))	X	X	X
Vessels operating on DP within 500m of Existing Project Facilities, including DP system adequacy, redundancy and condition	X	X (Attend DP Trials)	X
b) Jack-Up Rigs			
Sufficiency of Soil Analysis for Jack-Up Rig punchthrough assessment. Independent punchthrough risk assessment and mitigation measures.	X		
Risk Reduction measures (well shut-in, blowdown, pipeline depressurisation etc.) for Jack-up move onto / off location.	X		
Rig Move - Jack-Up / Jack Down Operations	X	X	X

Key

X Denotes activity to be performed

DMA Dead man anchor
 A&R Abandon and recovery
 VIV Vortex Induced Vibration
 HUC Hook-up and commissioning
 NDT Non Destructive Testing
 DP Dynamic Positioning

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