Joint Rig Committee
Renewables Code of Practice, Renewables Scope of Work and Renewables Certificate of Approval Requirements and Examples

Name	Date of issue	Version	Changes
JR2021-028	27th May 2021	1	Original

Joint Rig Committee
Marine Warranty Surveyors' 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) and establish the definition of "first in series" as detailed in the JRC MWS COA Requirements section below.

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 JRC MWS Information Form (JR2019-009) or the latest version that is available on the LMA website (https://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; and

1.3.4 the most current Marine Operations Manual available for the project; (Note: When an operation is conducted outside the Marine Operations Manual, this shall be subject to a formal Management of Change process, with senior leadership, technical authority and MWS approval.)

1.3.5 the MWS must be satisfied with work undertaken by other third party MWS (e.g. for any vessel).

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, proposed and repeat site attendances; and

1.5.3 a schedule of COAs to be issued.

1.5.4 COA requirements

The number of COAs required are as follows:

1.5.4.1 For WTG Foundation installation COAs shall be issued for 20% of all foundations of the same design and/or installation method. Different installation methods include drive vs drill/drive, different design includes a variance of more than 15 metres in the overall length of the foundation, or changes in the design of secondary steel work for different vessel embarkation approaches.

1.5.4.2 For WTG topside installation COAs shall be issued for 20% of all WTGs.

1.5.4.3 Every OSS foundation and topside installation shall have a separate COA issued.

1.5.4.4 For Inter Array Cable laying COAs shall be issued for 20% of all cables.

1.5.4.5 Every Export cable installation shall have a separate COA issued.

1.5.4.6 Every cable joint shall have a separate COA issued.

1.5.4.7 For Floating Offshore Wind, every unit will have a COA issued.

The above requirements are also applicable to decommissioning activities.

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; and

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 the lift analysis of turbine components.)

c. The production of procedures, project standards, risk assessments and other management documentation which influences how a marine operation is conducted and which any activity that has a direct bearing on the risk of a particular marine operation e.g. loadout, transportation, lift operations;

1.6.2.2 Loss Adjusting;

1.6.2.3 Verification services associated with the operation; and

1.6.2.4 Rig Moving (if required or used for a renewables project).

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 at any point up to the planned issuing of a COA;

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. where weather conditions deteriorate to the point that 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 warrantied; and

1.8.2 continued lack of information for a warrantied 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 sources to assist with the conduct of the Marine Warranty activities. Where such information is relied upon by the MWS it should be clearly referenced 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 JRC MWS Companies Pre-Qualification & Good Practice Guideline (JR2019-010 or latest version available on the LMA website (https://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 allow the MWS to perform 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); and

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 JRC MWS Companies Pre-Qualification & Good Practice Guideline (JR2019-010 or latest version available on the LMA website (https://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; and

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 report shall include the following contents:

4.2.1. Introduction (executive summary; report No.; project start date; project end date; and name of individual performing the survey);

4.2.2. Progress (activities performed in the last period and activities to be performed in the next period);

4.2.3. 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);

4.2.4. Attendances:

- Meetings – date, location, purpose;
- Surveys – date, vessels, location, name of MWS;
- Site attendances – date, location, purpose, number of repetitive site attendances;
- List of all COAs issued since the previous report);

4.2.5. 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);

4.2.6. Areas of concern (technical, project management and invoicing); and

4.2.7. Safety (incidents reported, lost time incidents, statistics, etc.).

5. MWS Site Survey Reports

5.1 The MWS's report shall:

5.1.1 include the name of the individual performing the survey and survey location;

5.1.2 state, 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.

JRC Renewables Scope of Work (SOW)

The following summarises the Certificates of Approval (COA) required to be issued by the MWS at site prior to the commencement of each of the specified activities:

Offshore wind installations are usually categorised as follows:

- **Foundations**
  These can be piled jackets, monopiles, Gravity Based Structures (GBS), suction caissons or floating structures. All may, or may not, have transition pieces. Fixed structures can be installed from a jack-up or floating Heavy Lift Vessel (HLV).

- **Wind Turbine Generators (WTG)**
  These typically consist of tower sections, nacelles, hubs and blades and are typically installed using jack-ups.

- **Inter Array Cables**
  These can be supplied in a continuous length or cut to length, in addition to laying, the pull-ins are complex and the burial operations, together with any rock protection, comes with risks.

- **Export cables**
  Depending on the length these may require joints and will also require beach pull-ins, sometimes through HDDs and platform pull-ins followed by burial.

- **Offshore Sub-Stations (OSS)**
  These transformer platforms can be installed on a regular platform jacket together with associated topside installations. Sometimes the foundation can be a monopile or a GBS. The guidance for OSS is also applicable to High Voltage Direct Current (HVDC) converter platforms which may be separate installations.

For each of the above categories the following major marine activities (and issuing of COAs) takes place:

- Loadouts.
- Towage, transportation and offshore transfer (if required).
- Installation of WTGs (fixed and floating), nacelles, rotor assembly (taken to mean blades and hub), jackets or monopiles (for Offshore Sub-Stations – OSS) and associated foundations, topsides for the Offshore Sub Station (OSS) platform, cable and subsea connections and foundations (including piling) for the WTG's and jackets or monopiles for transformers.
- Cable loading and offloading.
- Cable ship/barge sailaway or other suitable marine transport.
- Cable laying (covering trenching and burial).
- Start-up, crossings and tie-ins.
- Shore approach/pull-ins/Horizontal Directional Drilling (HDD).

These activities will also be similar and require a COA for other renewables projects (wave, current, tidal, solar, hybrid types)

The following table details all the required activities (reviews, independent checks and calculations, attendances etc.) and specific conditions that may apply associated with the above COAs.

Where this SOW does not adequately cover the operation(s) required the JRC Upstream Construction SOW (JR2019-006) should be referred to.

This document contains the SOW intended to be used with the JRC Renewables Marine Warranty Survey Endorsement (JR2020-030A).

Definition of Renewables:

Renewables are defined, for the purposes of this SOW, as being Marine Operations (loadout, transportation or installation) which are of a medium to high level of complexity including marine operations for offshore wind farms, involving structures, including fixed and floating foundations, transition pieces, towers, nacelles and rotor assemblies, inter array cables and export cables, OSS platforms and foundations, and HVDC converter platforms and foundations (if applicable).

The engineering and analysis required for Renewable marine operations would be significant and specific to the marine operation in question and require the use of specialist software and professionally qualified engineering personnel.

In addition to WTGs, this SOW will also apply to wave, current, tidal, hybrid types of renewables or other forms of renewable energy installations.

Scope of Work (SOW) 1:
General Activities applicable to all sections

The activities required by this section relate to all sections. During attendance for a specified operation, the Marine Warranty Surveyor (MWS) is to check compliance with all relevant documents approved. The MWS is to check that all recommendations have been closed out with respect to vessels agreed to be fit for purpose. The MWS is to also check that all critical actions required as per Hazop, Hazid and SIMOPS have been addressed prior to issuing the associated COA.

Activity	Review & Approve Procedures / Drawings / Design Calculations	Attend
Master Document Register	X	
Metocean criteria, including: - Limiting seastate - Wind - Loop, eddy, river and tidal currents - Ice formation and ice loading - Met-ocean windows for all marine operations	X	
Weather forecasting procedures	X	
Independent weather and met ocean forecasting including (loop, eddy, river and tidal currents) for all marine operations for the issuing of COAs	X	
Project details/schedule	X	
Standards, design codes and recommended practices for marine operations in accordance with good industry practice	X	
Request evidence that the project is using an approved Integrated Management System to control documents and the QA/QC for a project including all marine operations	X	
Management of Change (MoC) procedures	X	
Third Party Verification (if required): - Foundation washout - Vessel interface (for DP thruster action scour) - Geotechnical interface (piling)	X	
Project Communications and Interfaces	X	
Weight reports, CoG (and gyradius) and weight contingency factors	X	
Procedures for use of installation vessels (WTG and foundation installation vessels and cable layers) and equipment including pile hammers, cable laying and trenching equipment, grouting equipment etc.	X	
Loadout Manual(s) including ballast plan, moorings, quay strength, vessel strength, seafastening and intact and damaged stability (for all incremental stages).	X	
Installation manuals describing all aspects of the installation for WTG's and their foundations, jackets, piling, cable laying, cable tie-ins, cable crossings, pull-ins of cable, 1st and 2nd end pull-ins, cable jointing and cable burial.	X	
Installation manuals describing all aspects of the installation for wave, current, tidal or solar installations including all periphery activities such as cable laying and foundations installation	X	

Suitability surveys of all vessels required for an operation (including installation vessels, jack-ups, HLV's, cable laying vessels, trenching vessels, equipment (including for burial), walk to work vessels, Pre-Lay Grapnel Run (PLGR) vessels, where appropriate, refuelling vessels, rock placement vessels, dredgers etc.) (It is acknowledged that for break bulk or partial cargoes a full survey and report may prove to be impractical due to vessel turnaround time and availability, especially if the vessel operates on a liner service. In which case the surveyor is to be satisfied as to the general seaworthiness and suitability of the vessel.)	X	X Issue report confirming vessel is suitable
Tug Suitability Survey - Tug (including manoeuvring tugs) suitability survey and approval - Confirm valid Class certificate, with no outstanding conditions of class (or agree all outstanding conditions of Class are not material to the intended operations.) - Valid bollard pull test certificate - Redundancy of systems - Crew competency proven and valid training records - Communications	X	X
Towage Equipment Suitability Survey - Towing equipment certificates validity prior to tow - Current towing equipment (and NDT inspection certificates as appropriate) prior to tow (comment on adequacy and frequency) - Towing wire certification validity prior to tow - Towing arrangement (equipment and wire design and installation[1] Design of towing systems for anticipated environmental forces shall be in accordance with recognised industry standards (e.g. the relevant section(s) of ISO19901-6)	X	X
Transportation vessel/ loading and unloading equipment - Confirmation of suitability of transportation vessel - Confirmation that the transportation Vessel has a valid IACS Class certificate, and is class maintained (with no conditions of class) (or agree all outstanding conditions of Class as not being material to the intended operations.) - Valid loadline certificate - Relevant valid ISM and SOLAS certification - Verification of the adequacy and structural strength of the cribbing and sea fastenings - Confirmation good working order of all operational equipment and machinery required for loading and unloading operations (including contingency items) - Seaworthiness and water-tight integrity	X	X
Installation vessel: - Confirmation of suitability of installation vessel - Confirmation that the transportation vessel has a valid IACS Class certificate and is class maintained (with no Conditions of Class) (or agree all outstanding Conditions of Class as not being material to the intended operations) - Valid Loadline Certificate - Relevant valid ISM and SOLAS certification	X	X

- Verification of the adequacy and structural strength of the cribbing and seafastenings - Confirmation that all operational equipment and machinery required for installation operations (including contingency items) is in good working order - Confirmation that all lifting installation equipment is certified, for the relevant tonnages to be lifted - Seaworthiness and watertight integrity		
Voyage /Towage Manual(s) including: - Bollard pull requirements - Configuration of tugs - Vessel strength - Intact and damaged stability - Voyage details - Contact information - Pre-voyage Tow Plan and Risk Assessment - Route Planning (incl. sea room, safe havens and refuelling) - Hazard identification - Trim and stability - ability to withstand environmental forces (wind, wave, current) - Weather routing - Confirm that the MOU (installation jack-up) has a valid Class certification without Conditions of Class (or agree all outstanding conditions of Class are not material to the intended operations.) - Valid loadline certificate - Relevant valid ISM and SOLAS certification - Fuel requirements (contingency) - Communications (Reporting Protocols) and language restrictions - Manning levels justified - Riding crew (including Towmaster) competency proven and valid training records - Navigational Aids (Navaids) - Tow routes/passage plans and safe havens including: • Checking underkeel clearances • Side and overhead clearances for all movements • Planned contingency movements • Review of surveys of final and contingency locations	X	X Check Compliance
Contingency Planning for Emergencies - Bunkering - Line parting, availability of spare tow line, rigged reconnection equipment and adequate sea room - Emergency survival anchor and deployment method in event of tow failure close to shore - Availability of additional vessels - Tug equipment failure - Engine failure - Heavy weather/storm approach, including safe approach to shore/safe haven - Grounding - Collision - Fire and explosion - Damage stability - Water ingress through valves	X	

- Structural failure - Riding crew evacuation - Key equipment breakdown (critical spares) - Emergency in-line joint repair plan - Replacement cable availability - Sufficient spare marine joints - Qualified jointing team		
Positioning including verification of positioning requirements, anchoring and mooring calculations, DP requirements including FMEA, DP testing requirements	X	X
Confirmation of verification of design and Class or build quality where class not confirmed	X	
HUC and Project handover	X	
Sufficiency of data acquisition and testing for soil/rock mechanics and geotechnical parameters for foundations at proposed locations until completion of installation	X	
Adequacy of structures to withstand loads during loadout, tow/transportation, lifting, mating and installation operations	X	
Cranes and lifting equipment details including Certificates and Inspection Records	X	
Main and emergency towing equipment details and connection points[1.]	X	X
Marine Hazid, marine Hazop and SIMOPS	X	X
Confirm adequacy and on-site integrity (and acceptable functioning) of sea-state monitoring equipment	X	X
Prototypical and Step-Out Technology Items (any items that may have an effect on MWS approved activities - temporary or permanent phases): - Qualification of items - Testing of items - Assurance of performance and reliability	X	X

X Denotes activity to be performed

Notes for 1. General Activities

1. Visual inspection and confirmation that the actual tow arrangement is fully consistent with the tow arrangement drawings(s) and specifications. Confirm all relevant certificates in date.

Notes applicable to all sections:

- MWS shall only issue COAs for operations they physically attend.
- MWS activities to be carried out independently of Class attendance/requirements.
- MWS to use a recognised industry standard (e.g. the relevant section(s) of ISO19901-6) as minimum standards in the execution of this SOW or a clearly defined set of standards agreed by Underwriters.

Scope of Work (SOW) 2:

Fixed Bottom Offshore Wind Farm (WTGs foundations, WTGs, OSS foundations, OSS topsides)

Activity	Review & Approve Procedures / Drawings / Design Calculations	Attend	Issue Certificate of Approval (COA)
1. WTG foundations			
1.1 Fabrication and Loadout			
Loadout Procedures Manual: Trailered/skidded/lifted etc.	X	X Check Compliance	
Motive power systems (trailers, SPMTs etc.)	X		
Structural strength of skidding system or trailers for required operation	X		
Quayside Capacity for Load	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	X	
Loadout operation (tide, ballasting and Loadout operational limitations)	X	X	X
As-built dimensions of foundation / WTG/ transition piece (if applicable) interfaces	X		
1.2 Transportation to project site			
Loadout plan: - Fabrication yard or marshalling harbour to site - Vessel transfer (if required)	X		
Transfer of foundation from transportation vessel to installation vessel (if required)	X	X	
Transportation/Towing Manual	X See SOW 1 for details		
Procedure for departure (including draught, tidal, environmental limits)	X		
Motion response analysis	X		
Grillage, seafastening, cribbing and Lashing design, including fatigue design considerations (inc. NDT requirements)	X	X	
Firefighting, lifesaving and emergency equipment for manned tows	X	X	
Emergency anchors and mooring including, mounting and release system.	X		
Internal seafastenings/voyage protection	X	X	
Self-propelled ships lashings and securing	X	X	X
Intact and Damaged Stability	X		

Activity	Review & Approve Procedures / Drawings / Design Calculations	Attend	Issue Certificate of Approval (COA)
Review and approve transportation routes, weather windows and safe havens using a suitable marine transportation method or software appropriate to the voyage	X perform independent assessment		
Transportation - Mooring system - Jacket structure (if applicable) - Jacket subsea template (if applicable)	X	X Attend Sailaway	X Issue COA for Sailaway
Anti-Piracy Measures	X		
Mooring adequacy on arrival to withstand Natural Hazard exposure for both temporary and long-term moorings	X		
1.3 Installation			
As installation configurations and techniques vary significantly, notwithstanding the requirements in the section below where there are discrete offshore installation operations with possible hold points between each of these operations, COAs are required for the commencement of each of these operations.			
Foundation design: - Monopile and transition piece - Jacket/platform - Suction caisson - Gravity Based Structure (GBS)	X	X	X COA to be provided for and prior to sequence of irreversible operations
Installation procedure (version reviewed and approved by MWS) at site.	X	X Check Compliance	
Site/seabed survey and water depth	X		
The vessel integrity assessment by comparison of the location with the vessel Marine Operating Manual should have the following (where applicable): - Spudcan penetration (MN v metres), demonstrated on a leg penetration curve - Reserve leg length - Preload capacity - Air-gap adequacy - Anchoring and mooring suitability Additionally, the assessment must confirm that the location specific data is less onerous than that used as the design basis in the vessel Marine Operating Manual, so that for example, leg, chock, pinion, anchor and mooring system strength is adequate. If the target location is found to be unsuitable the above assessment shall be carried out for the new location. Further, where leg extraction problems are predicted, a warning should be included as part of the assessment.	X		X
Jack-up and jack-down procedure (if applicable)	X	X Attend first jack-up and first jack-down of campaign	X
Crane suitability:	X	X	

Activity	Review & Approve Procedures / Drawings / Design Calculations	Attend	Issue Certificate of Approval (COA)
Crane(s) to be inspected prior to lifting operations taking place. The 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 visual examination of the crane(s) and vessel.			
Temporary Installation aids including: - - Lift points - - Lifting aids - - Bumpers and Guiding Systems - - Positioning systems, etc.	X	X	
Static and dynamic hook load calculations (single and dual crane lifts) including considerations for lifting through water. The independent 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		
Installation vessel position, monitoring and control	X	X	
Foundation Installation: - Foundation launch operation - Foundation upending - Foundation lift (Strength Check verifying capability of withstanding installation forces including Hydrostatic Collapse Checks for leg collapse and checks on single compartment damage stability)	X	X	X See section 1.5 regarding first in series COA to be provided for and prior to sequence of irreversible operations
As-built dimensions of foundation/WTG interfaces	X		
Piling operations including calculations, analysis and Installation Manuals	X	X	X COA to be provided for and prior to sequence of irreversible operations
Foundation/transition piece/platform connection including: - System integrity - Grouting operations (if applicable) - Confirmation of grout strength (if applicable) - Testing of grouting pumps under full load (if applicable)	X	X	X COA to be provided for and prior to sequence of irreversible operations
Cathodic protection system installation			
Scour protection installation			
Hook-up and commissioning	X	X	

2. WTGs			
2.1 Fabrication and Loadout			
Loadout Procedures Manual: lifted etc.	X	X Check Compliance	

Motive power systems (trailers, SPMTs etc.)	X		
Structural strength of trailers for required operation	X		
Quayside capacity for load	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	X	
Loadout operation (tide, ballasting and Loadout operational limitations)	X	X	X
As-built dimensions of foundation / WTG interfaces	X		
2.2 Transportation to project site			
Loadout plan: - Fabrication yard or marshalling harbour to site - Vessel transfer (if required)	X	X Check Compliance	
Transfer of WTG from transportation vessel to installation vessel (if required)	X	X	
Transportation / towing manual	X See SOW 1 for details		
Procedure for departure (including draught, tidal, environmental limits)	X		
Motion response analysis	X		
Grillage, seafastening, cribbing and Lashing design, including fatigue design considerations (inc. NDT requirements)	X	X	
Firefighting, lifesaving and emergency equipment for manned tows	X	X	
Emergency anchors and mooring including, mounting and release system.	X		
Internal seafastenings / voyage protection	X	X	
Self-propelled ships lashings and securing	X	X	X
Intact and Damaged Stability	X		
Review and approve transportation routes, weather windows and safe havens using a suitable marine transportation method or software appropriate to the voyage	X perform independent assessment		
Transportation - Turbine towers - Turbine nacelles - Turbine rotor assembly (components transported to site on installation vessel or barge) - Turbine transformers (if located on transition piece)	X	X Attend Sailaway	X Issue COA for Sailaway
Anti-Piracy Measures	X		
Mooring adequacy on arrival to withstand Natural Hazard exposure for both temporary and long-term moorings	X		
2.3 Installation			

As installation configurations and techniques vary significantly, notwithstanding the requirements in the section below where there are discrete offshore installation operations with possible hold points between each of these operations, COAs are required for the commencement of each of these operations.			
Installation procedure (version reviewed and approved by MWS) at site.	X	X Check Compliance	
Site/seabed survey and water depth	X		
The vessel integrity assessment by comparison of the location with the vessel Marine Operating Manual should have the following (where applicable): - Spudcan penetration (MN v metres), demonstrated on a leg penetration curve - Reserve leg length - Preload capacity - Air-gap adequacy - Anchoring and mooring suitability Additionally the assessment must confirm that the location specific data is less onerous than that used as the design basis in the vessel Marine Operating Manual, so that for example, leg, chock, pinion, anchor and mooring system strength is adequate. If the target location is found to be unsuitable the above assessment shall be carried out for the new location. Further, where leg extraction problems are predicted, a warning should be included as part of the assessment.	X		X
Jack-up and jack-down procedure (if applicable)	X	X Attend first jack-up and first jack-down of campaign	X
Crane suitability: Crane(s) to be inspected prior to lifting operations taking place. The 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 visual examination of the crane(s) and vessel.	X	X	
Turbine installation: - Lower tower section fitted to Transition Piece/foundation - Middle/upper tower section assembly - Nacelle - Rotor assembly (e.g. connect first two blades as “bunny ears” to nacelle, then connect third blade)	X	X	X COA to be provided for and prior to sequence of irreversible operations
Temporary power solution (if WTG installed prior to Grid connection)	X		
Hook-up and commissioning	X	X	

3. Offshore Sub Station (OSS) Foundation			
3.1 Fabrication and Loadout			
Loadout Procedures Manual: Trailered/skidded/lifted etc.	X	X Check Compliance	
Motive power systems (trailers, SPMT's etc.)	X		
Structural strength of skidding system or trailers for required operation	X		
Quayside Capacity for Load	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	X	
Loadout operation (tide, ballasting and Loadout operational limitations)	X	X	X
As-built dimensions of foundation / module interfaces	X		
3.2 Transportation to project site			
Transportation/Towing Manual	X See SOW 1 for details		
Procedure for departure (including draught, tidal, environmental limits)	X		
Motion response analysis	X		
Grillage, seafastening, cribbing and Lashing design, including fatigue design considerations (inc. NDT requirements)	X	X	
Firefighting, lifesaving and emergency equipment for manned tows	X	X	
Emergency anchors and mooring including, mounting and release system.	X		
Internal seafastenings / voyage protection	X	X	
Self-propelled ships lashings and securing	X	X	X
Intact and Damaged Stability	X		
Review and approve transportation routes, weather windows and safe havens using a suitable marine transportation method or software appropriate to the voyage	X perform independent assessment		
Transportation - Piles - Jacket structure - Jacket subsea template - OSS Transition Piece (TP) and associated secondary steelwork (ladders, J tubes, etc) - OSS topside	X	X Attend Sailaway	X Issue COA for Sailaway
Anti-Piracy Measures	X		
Mooring adequacy on arrival to withstand Natural Hazard exposure for both temporary and long term moorings	X		
3.3 Installation			
As installation configurations and techniques vary significantly, notwithstanding the requirements in the section below where there are discrete offshore installation operations			

with possible hold points between each of these operations, COAs are required for the commencement of each of these operations.			
Installation procedure (version reviewed and approved by MWS) at site.	X	X Check Compliance	
Site/seabed survey and water depth	X		
The vessel integrity assessment by comparison of the location with the vessel Marine Operating Manual should have the following (where applicable): - Spudcan penetration (MN v metres), demonstrated on a leg penetration curve - Reserve leg length - Preload capacity - Air-gap adequacy - Anchoring and mooring suitability Additionally the assessment must confirm that the location specific data is less onerous than that used as the design basis in the vessel Marine Operating Manual, so that for example, leg, chock, pinion, anchor and mooring system strength is adequate. If the target location is found to be unsuitable the above assessment shall be carried out for the new location. Further, where leg extraction problems are predicted, a warning should be included as part of the assessment.	X		X
Jack-up and jack-down procedure (if applicable)	X	X Attend first jack-up and first jack-down of campaign	X
Crane suitability: Crane(s) to be inspected prior to lifting operations taking place. The 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 visual examination of the crane(s) and vessel.	X	X	
Temporary Installation aids including: - Lift points - Lifting aids - Bumpers and Guiding Systems - Positioning systems, etc.	X	X	
Jacket on-bottom stability including mud mat design	X		
Static and dynamic hook load calculations (single and dual crane lifts) including considerations for lifting through water. The independent 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		

Installation vessel position, monitoring and control	X	X	
Jacket Installation: - Jacket launch operation - Jacket upending - Jacket lift (Strength Check verifying capability of withstanding installation forces including Hydrostatic Collapse Checks for leg collapse and checks on single compartment damage stability)	X	X	X COA to be provided for and prior to sequence of irreversible operations
As-built dimensions of jacket/module interfaces	X		
Piling operations including calculations, analysis and Installation Manuals	X	X	X COA to be provided for and prior to sequence of irreversible operations
Grouting including: - System Integrity - Grouting operations - Confirmation of grout strength Testing of grouting pumps under full load for sufficient duration to reflect offshore conditions	X	X	
Temporary Installation aids including: - Lift points - Bumpers and Guiding Systems - Buoyancy tanks and attachment (and removal) to Jackets (including collapse check and point loading assessment) - Launch frames - Positioning systems, etc.	X	X	
Deck installation/MSF/module lift/floatover	X	X	X COA to be provided for and prior to sequence of irreversible operations
Cathodic protection system installation			
Scour protection installation			
Hook-up and commissioning	X	X	

4. Offshore Sub Station (OSS) Topside			
4.1 Fabrication and Loadout			
Loadout Procedures Manual: Trailered / skidded / lifted / etc.	X	X Check Compliance	
Motive power systems (trailers, SPMT's etc.)	X		
Structural strength of skidding system or trailers for required operation	X		
Quayside Capacity for Load	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	X	

Loadout operation (tide, ballasting and Loadout operational limitations)	X	X	X
As-built dimensions of foundation / transition piece interfaces	X		
4.2 Transportation to project site			
Transportation/Towing Manual	X See SOW 1 for details		
Procedure for departure (including draught, tidal, environmental limits)	X		
Motion response analysis	X		
Grillage, seafastening, cribbing and Lashing design, including fatigue design considerations (inc. NDT requirements)	X	X	
Firefighting, lifesaving and emergency equipment for manned tows	X	X	
Emergency anchors and mooring including, mounting and release system.	X		
Internal seafastenings/voyage protection	X	X	
Self-propelled ships lashings and securing	X	X	X
Intact and Damaged Stability	X		
Review and approve transportation routes, weather windows and safe havens using a suitable marine transportation method or software appropriate to the voyage	X perform independent assessment		
Transportation - OSS Topside	X	X Attend Sailaway	X Issue COA for Sailaway
Anti-Piracy Measures	X		
Mooring adequacy on arrival to withstand Natural Hazard exposure for both temporary and long-term moorings	X		
4.3 Installation			
As installation configurations and techniques vary significantly, notwithstanding the requirements in the section below where there are discrete offshore installation operations with possible hold points between each of these operations, COAs are required for the commencement of each of these operations.			
Installation procedure (version reviewed and approved by MWS) at site.	X	X Check Compliance	
Site/seabed survey and water depth	X		
The vessel integrity assessment by comparison of the location with the vessel Marine Operating Manual should have the following (where applicable): - Spudcan penetration (MN v metres), demonstrated on a leg penetration curve - Reserve leg length - Preload capacity - Air-gap adequacy - Anchoring and mooring suitability Additionally, the assessment must confirm that the location specific data is less onerous than that used as the design basis in the vessel Marine Operating Manual, so that for example, leg, chock, pinion, anchor and mooring system strength is adequate.	X		X

If the target location is found to be unsuitable the above assessment shall be carried out for the new location. Further, where leg extraction problems are predicted, a warning should be included as part of the assessment.			
Jack-up and jack-down procedure (if applicable)	X	X Attend first jack-up and first jack-down of campaign	X
Crane suitability: Crane(s) to be inspected prior to lifting operations taking place. The 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 visual examination of the crane(s) and vessel.	X	X	
Temporary Installation aids including: - Lift points - Lifting aids - Bumpers and Guiding Systems - Positioning systems, etc. Requires Close Visual Inspection and check against design drawings	X	X	
Static and dynamic hook load calculations (single and dual crane lifts). The independent 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		
Installation vessel position, monitoring and control	X	X	
OSS topside Installation: - OSS topside lift - OSS topside installation on OSS foundation (Strength Check verifying capability of withstanding installation forces including Hydrostatic Collapse Checks for leg collapse and checks on single compartment damage stability)	X	X	X COA to be provided for and prior to sequence of irreversible operations
As-built dimensions of jacket / topside interfaces	X		
Grouting (if applicable) including: - System Integrity - Grouting operations - Confirmation of grout strength Testing of grouting pumps under full load with duration to be agreed to reflect offshore conditions	X	X	
Temporary Installation aids including: - Lift points - Bumpers and Guiding Systems - Launch frames - Positioning systems, etc.	X	X	
Deck installation/MSF/module lift/floatover	X	X	X

			COA to be provided for and prior to sequence of irreversible operations
Hook-up and commissioning	X	X	

X Denotes activity to be performed

Notes applicable to all sections:

- MWS shall only issue COAs for operations that they physically attend.
- MWS activities to be carried out independently of Class attendance/requirements.
- MWS to use a recognised industry standard (e.g. the relevant section(s) of ISO19901-6) as minimum standards in the execution of this SOW or a clearly defined set of standards agreed by Underwriters.

Scope of Work (SOW) 3:

Floating Foundation Offshore Wind Farm

Activity	Review & Approve Procedures / Drawings / Design Calculations	Attend	Issue Certificate of Approval (COA)
1. Floating WTG			
1.1 Fabrication and Loadout			
WTG/foundation assembly procedure	X	X Check Compliance	
Install turbine on floating foundation at quayside	X	X	X COA to be provided for and prior to sequence of irreversible operations
Static and dynamic hook load calculations (single and dual crane lifts) including considerations for lifting through water. The independent 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		
Crane suitability: Crane(s) to be inspected prior to lifting operations taking place. The 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 visual examination of the crane(s) and vessel	X	X	
Loadout Procedures Manual: Trailered/skidded/lifted etc.	X	X Check Compliance	
Motive power systems (trailers, SPMT's etc.)	X		
Structural strength of skidding system or trailers for required operation	X		
Quayside capacity for Load	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	X	
Full stability, strength and detailed procedures for foundation load out, including securing info, ballasting, cribbing and location details	X		
Loadout operation (tide, ballasting and loadout operational limitations)	X	X	X

Activity	Review & Approve Procedures / Drawings / Design Calculations	Attend	Issue Certificate of Approval (COA)
As-built dimensions of foundation/WTG interfaces	X		
1.2 Transportation			
Transportation / towing manual	X See SOW 1 for details		
Procedure for departure (including draught, tidal, environmental limits)	X		
Motion response analysis	X		
Grillage, seafastening, cribbing and lashing design, including fatigue design considerations (inc. NDT requirements)	X	X	
Firefighting, lifesaving and emergency equipment for manned tows	X	X	
Emergency anchors and mooring including, mounting and release system.	X		
Internal seafastenings/voyage protection	X	X	
Self-propelled ships lashings and securing	X	X	X
Intact and Damaged Stability	X		
Review and approve tow routes, weather windows and safe havens using a suitable marine transportation method or software appropriate to the voyage	X perform independent assessment		
Floating out of WTG on integrated buoyancy to moorings	X	X	X COA to be provided for and prior to sequence of irreversible operations
Towage/transportation - Floating WTG towed/transported to site on integrated buoyancy) - Buoyancy support for WTG to be towed to site (if required)	X	X Attend Sailaway	X Issue COA for Sailaway
Anti-Piracy Measures	X		
Mooring adequacy on arrival to withstand Natural Hazard exposure for both temporary and long term moorings	X		
1.3 Installation			
As installation configurations and techniques vary significantly, notwithstanding the requirements in the section below where there are discrete offshore installation operations with possible hold points between each of these operations, COAs are required for the commencement of each of these operations.			
Installation manual (version reviewed and approved by MWS) at site.	X	X Check Compliance	
Site/seabed survey and water depth	X		
Install turbine mooring system	X	X	X COA to be provided for and prior to sequence of irreversible operations

Activity	Review & Approve Procedures / Drawings / Design Calculations	Attend	Issue Certificate of Approval (COA)
Temporary Installation aids including: - Tow points - Bumpers and Guiding Systems - Buoyancy Tanks and attachment to WTG (including collapse check and point loading assessment) - Positioning systems, etc.	X	X	

2. Floating OSS			
2.1 Fabrication and Loadout			
OSS/foundation assembly procedure	X	X Check Compliance	
Install OSS on floating foundation at quayside	X	X	X COA to be provided for and prior to sequence of irreversible operations
Static and dynamic hook load calculations (single and dual crane lifts) including considerations for lifting through water. The independent 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		
Crane suitability: Crane(s) to be inspected prior to lifting operations taking place. The 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 visual examination of the crane(s) and Vessel	X	X	
Loadout Procedures Manual: Trailered/skidded/lifted etc.	X	X Check Compliance	
Motive power systems (trailers, SPMT's etc.)	X		
Structural strength of skidding system or trailers for required operation	X		
Quayside capacity for Load	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	X	
Full stability, strength and detailed procedures for foundation load out,	X		

including securing info, ballasting, cribbing and location details			
Loadout operation (tide, ballasting and loadout operational limitations)	X	X	X
As-built dimensions of foundation/OSS interfaces	X		
2.2 Transportation			
Transportation/towing manual	X See SOW 1 for details		
Procedure for departure (including draught, tidal, environmental limits)	X		
Motion response analysis	X		
Grillage, seafastening, cribbing and Lashing design, including fatigue design considerations (inc. NDT requirements)	X	X	
Firefighting, lifesaving and emergency equipment for manned tows	X	X	
Emergency anchors and mooring including, mounting and release system.	X		
Internal seafastenings/voyage protection/temporary bracing adequacy	X	X	
Self-propelled ships lashings and securing	X	X	X
Intact and Damaged Stability	X		
Review and approve tow routes, weather windows and safe havens using a suitable marine transportation method or software appropriate to the voyage	X perform independent assessment		
Floating out of OSS on integrated buoyancy, to moorings	X	X	X COA to be provided for and prior to sequence of irreversible operations
Towage/transportation - Floating OSS owed to site on integrated buoyancy - Buoyancy support for OSS deck to be towed to site (if required)	X	X Attend Sailaway	X Issue COA for Sailaway
Anti-Piracy Measures	X		
Mooring adequacy on arrival to withstand natural hazard exposure for both temporary and longterm moorings	X		
2.3 Installation			
As installation configurations and techniques vary significantly, notwithstanding the requirements in the section below where there are discrete offshore installation operations with possible hold points between each of these operations, COAs are required for the commencement of each of these operations.			
Installation manual (version reviewed and approved by MWS) at site.	X	X Check Compliance	
Site/seabed survey and water depth	X		
Install OSS platform mooring system	X	X	X COA to be provided for and prior to sequence of irreversible operations
Temporary Installation aids including: - Tow points - Bumpers and Guiding Systems	X	X	

- Buoyancy Tanks and attachment to OSS (including collapse check and point loading assessment) - Positioning systems, etc.			
Install OSS on floating foundation offshore	X	X	X COA to be provided for and prior to sequence of irreversible operations
Connect OSS, floating out on integrated buoyancy, to moorings	X	X	X COA to be provided for and prior to sequence of irreversible operations
Hook-up and commissioning	X	X	

Scope of Work (SOW) 4:

Subsea Cable Installation and Shore Pull-ins for Fixed and Floating Offshore Wind Farms (inter-array and export cables)

Activity	Review & Approve Procedures / Drawings / Design Calculations	Attend	Issue Certificate of Approval (COA)
Fabrication and Load-out			
Cable manufacturing - Cable design and basis - Production principle and methods	X	X	X
Factory Acceptance Test (FAT) after fabrication - FAT test procedure - Review of FAT results	X	X	X
Load-out (reels to be lifted onboard or spooled into a carousel from shore)	X	X	X
Transportation (see Scope of Work (SOW) 1 for details)			
Transportation by cable layer	X	X	X COA for lashing and securing
Installation			
Offshore Cable Route review	X		
Insured's project setup - procedures for preliminary and final cable as built documentation (as laid, as trenched, as buried) - distribution of updated information to contractors during the construction phase	X		
Cable laying (AC or DC) - Laying cable on seabed (for fixed and floating WTG and OSS) - Installing dynamic cables together with buoyancy modules (for floating WTG or OSS)	X	X	X
Minimum bend radius - confirm installed radius is within design tolerance	X	X	X
On-bottom stability, slope stability	X		
Trenching and burying or backfilling, including post-lay checks in accordance with design requirements	X	X	X
Guard vessels (if applicable) - Review plan for coverage across entire export cable corridor	X		
1st and 2nd end pull-ins/connections with WTG and OSS, crossings, spans and shore approaches.	X	X	X
Termination of cables	X	X	X
Temporary installation aids, rigging, etc.	X		
Infield joints (planned and unplanned)	X	X	X
Heavy weather and DP run-off procedures	X		

Activity	Review & Approve Procedures / Drawings / Design Calculations	Attend	Issue Certificate of Approval (COA)
Vessel manoeuvring, station keeping and cable handling procedures during jointing	X		
Hook-up, commissioning and project handover, including all quality and functionality tests on the installed cables, their terminations and joints.	X	X	
Contingency procedures for recovery of damaged subsea cable, repairing and relaying (if design permits)	X	X	X (if undertaken as a separate campaign)
Shore pull-in			
Details of shore pull-in: - Trench and drag - HDD - Micro tunnelling	X	X	X
Vessels to be used for shore pull-in	X	X	
Winches to be used for shore pull-in	X	X	

X Denotes activity to be performed

Notes applicable to all sections:

- MWS shall only issue COAs for operations that they physically attend.
- MWS activities to be carried out independently of Class attendance / requirements.
- MWS to use a recognised industry standard (e.g. the relevant section(s) of ISO19901-6) as minimum standards in the execution of this SOW or a clearly defined set of standards agreed by Underwriters.

Scope of Work (SOW) 5:

Wave, tide, current and solar installations

Activity	Review & Approve Procedures / Drawings / Design Calculations	Attend	Issue Certificate of Approval (COA)
Ship or barge transportations **(see Scope of Work (SOW) 1 for details)**			
Load out and offload documentation (inc. seafastening design, barge layout and ballasting) of renewables equipment: - Wave generator - Tidal generator - Current generator - Solar panels - A hybrid arrangement using one or more of the above components	X		
Loadouts and offloads (inc. trailered / skidded / lifted / floated on / etc.) and seafastenings	X	X	X
Loadout Pads (for grounded loadouts)	X	X	
Transportation to site	X	X	X COA for Sailaway
Install foundation: - Piling - Suction piles - Anchors - Other	X	X	X COA to be provided for and prior to sequence of irreversible operations
Voyage Protection	X	X	
Lifting and setting down/securing at interim locations	X	X	X

X Denotes activity to be performed

Notes applicable to all sections:

- MWS shall only issue COAs for operations that they physically attend.
- MWS activities to be carried out independently of Class attendance / requirements.
- MWS to use a recognised industry standard (e.g. the relevant section(s) of ISO19901-6) as minimum standards in the execution of this SOW or a clearly defined set of standards agreed by Underwriters.

Scope of Work (SOW) 6:

Incidental Decommissioning within renewables projects. For stand-alone project decommissioning see JRC Decommissioning SOW (JR2019-007)

Activity	Review & Approve Procedures / Drawings / Design Calculations	Attend	Issue Certificate of Approval (COA)
Decommissioning documentation including method statements, procedures, Risk Assessments, Hazop, Hazid, Simops, etc.	X		
Anchoring or DP positioning	X	X	
Commencement of dismantling		X	X COA for commencement of continuous activity leading to Sailaway
Subsea cable removal	X	X	X COA for commencement of continuous activity leading to Sailaway
Seafastening / securing and transportation	X	X	X COA for Sailaway
Offloading at disposal (and any interim) sites	X	X	X
Vessel Traffic Management	X		

X Denotes activity to be performed

Notes applicable to all sections:

- MWS shall only issue COAs for operations that they physically attend.
- MWS activities to be carried out independently of Class attendance / requirements.
- MWS to use a recognised industry standard (e.g. the relevant section(s) of ISO19901-6) as minimum standards in the execution of this SOW or a clearly defined set of standards agreed by Underwriters.

Abbreviations

A&R	Abandon and recovery
CALM	Catenary Anchor Leg Mooring
COA	Certificate of Approval
CVI	Close Visual Inspection
DMA	Dead man anchor
DP	Dynamic Positioning
D/t	Diameter / Thickness
DWT	Deadweight
FDPSO	Floating Drilling Production Storage and Offloading
FGSO	Floating Gas Storage and Offloading
FLNG	Floating Liquefied Natural Gas
FMEA	Failure Mode and Effects Analysis
FPF	Floating Production Facility
FPS	Floating Production System
FPSO	Floating Production Storage and Offloading
FPU	Floating Production Unit
FSO	Floating Storage and Offloading
FSU	Floating Storage Unit
GBS	Gravity Based Structure
GRT	Gross Registered Tonnage
GSOW	Generic Scope of Work
HAZID	Hazard Identification
HAZOP	Hazard and Operability
HDD	Horizontal Directional Drilling
HLV	Heavy Lift Vessel
HUC	Hook-up and commissioning
HVDC	High Voltage Direct Current
IACS	International Association of Classification Societies
IMO	International Maritime Organisation
ISM	International Ship Management (Certificate)
JRC	Joint Rig Committee
JSA	Job Safety Analysis
MOPS	Mobile Offshore Production Systems
MOU	Mobile Offshore Unit
MSF	Module Support Frame
MWS	Marine Warranty Survey (or Surveyor)
NDE	Non Destructive Examination
NDT	Non Destructive Testing
OSS	Offshore Sub-Stations
PLEM	Pipeline End Manifold
PLET	Pipeline End Termination
PLGR	Pre-Lay Grapnel Run
PSSOW	Project Specific Scope of Work
QA/QC	Quality Assurance / Quality Control
RFHU	Ready For Hook Up
ROV	Remotely Operated Vehicle
RPD	Rack Phase Difference
SCR	Steel Catenary Riser
SDU	Subsea Distribution Unit
SIMOPS	Simultaneous Operations
SOLAS	Safety Of Life At Sea
SOW	Scope of Work
SSA	Site Specific Assessment
SUTU	Subsea Umbilical Termination Unit
TLP	Tension Leg Platform
TP	Transition Piece
UMR	Unique Market Reference
VIV	Vortex Induced Vibration

WTG	Wind Turbine Generator

JRC MWS Certificate of Approval (COA) Requirements

The Certificate of Approval (COA) is the final document in an approval process that includes numerous activities such as:

- Survey attendances for suitability and/or condition of a vessel
- Site assessment and vessel surveys
- Document reviews and re-reviews
- Site attendance to review preparations

As a result the COA is not a stand-alone document and the above activities must be referenced to ensure the whole process is completed to the attending surveyor's satisfaction with its signing.

Basic Requirements

1. A COA must only be issued if the surveyor signing the COA has witnessed the preparations for the operation and is in attendance at the site. It should be issued immediately prior to the commencement of the operation.

   Exception: Location approvals of MOUs where the COA is issued by the approving office.

   The COA should also be signed by the Assured's person in authority on site (if present) to acknowledge receipt of the COA and acceptance of the recommendations.

2. To assure validity of the COA, approval documentation from the office that performed the desk top reviews of the operation confirming the acceptability of the documents reviewed (plans, procedures, calculations etc.) shall be provided to the attending MWS.

3. Each COA shall have a unique number.

4. The title on the COA must be sufficient to identify the operation being approved.

5. The MWS's name shall be printed underneath the signature.

6. The time at which the issuing of the COA has been approved shall be recorded and a period of validity (if issued for first in series and to cover a series of events) for the COA must also be recorded.

7. The original COA shall be given or sent to the Assured with copies retained by the MWS company.

8. Traceability of the COA is required by reference to the principal document(s) approved for the operation.

9. Where appropriate vessel capacity (bollard pull, DWT., GRT., displacement etc.) is to be documented to help define a vessel's suitability for an operation.

10. For any COAs issued for the "first in series only", or a percentage of components to be installed, this shall be clearly stated on the COA, together with conditions for its issue clearly stated.

11. Checklists may be appended to the issued COA if required to clarify the scope of the approval.

12. All recommendations related to the operation must be complied with prior to the issue of the COA and the COA must not be subject to any outstanding recommendations. However, any recommendations intended to be complied with after the issue of the COA, as mandated by the MWS, for example to cover an agreed activity after a tow departs or compliance with a procedures document, shall be specific, measurable, achievable, reasonable, time-bound and clearly listed, attached to and referenced in the COA .

13. A UMR (Unique Market Reference) number is to be provided on all COAs. This number is available through the Lead Underwriter insurer and the Assured's Broker. A UMR is a unique number allocated to each individual policy. The UMR will enable clear traceability as to the Policy to which the COA pertains.

Notes:

1. COA for the "first in series only":

When approval for a repeated operation is required, for instance, to approve the installation of twenty monopiles, then the operations approved must be identical in all material respects to the first operation otherwise individual COAs are required for each operation. For instance, the foundation installation method, securing arrangements, vessel ballasting and trim condition, weather window and limiting weather criteria must all be the same. No additional cargo, change of securing practices, change of route, change of tug, barge or transportation vessel, or other alteration, compared to the initially approved condition, may be permitted without reference to the MWS. Where the change(s) are acceptable the MWS must endorse the original COA or issue a new COA. However, if multiple tugs, barges (or other vessels) or equipment have been approved for use in various combinations with MWS approval, then this is acceptable. If a loss or 'near miss' incident occurs during a repeat operation then the COA shall be suspended until the MWS is satisfied that the key root causes have been satisfactorily addressed. For operations involving greater value, loads, 'at the edge of the envelope', and/or greater complexity then full attendance is required and issuance of COA shall be made in each case.

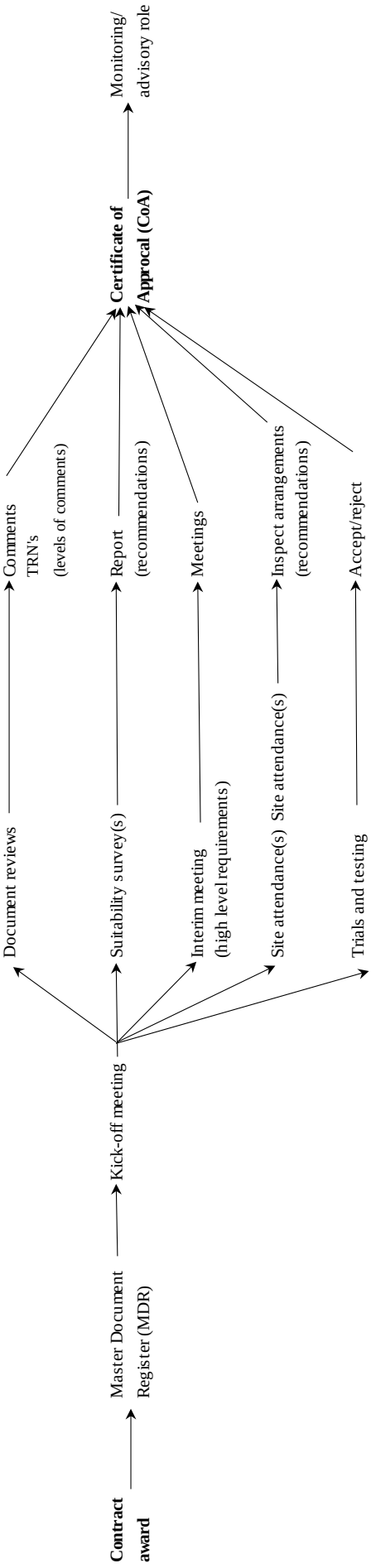
2. Failure to Issue COA:

If the processes required for approval are incomplete, then the COA must not be issued. For example, if approved documentation from the MWS office performing the desk-top reviews has not been received or if recommendations issued by the MWS Office or attending MWS surveyor have not been completed or implemented.

3. COAs which, after issuing, no longer conform to the operation originally approved:

If, after issuing the COA, the MWS surveyor notes any non-compliance with the basis on which the COA approval was provided or with any recommendation, intended to be completed after the issue of the COA, the attending MWS surveyor shall issue a document of non-compliance formally identifying how the terms, conditions and any recommendations of the COA have been contravened. In such circumstances, subject to confidentiality undertakings of the MWS company, the Lead Underwriter is to be informed of this and the surrounding circumstances at the first opportunity. In all cases the MWS company must ensure that the Assured's representative is formally made aware of the situation (in writing).

The following CoA's are provided as an example of the type of content and format expected for principle categories of CoA.



Procedure for loadouts, sailaways, installations (platform installation, pipelaying, subsea, project carago, renewables)

Notes:

1. All comments, recommendations or higher level requirements must be closed out before the CoA is issued.
   Hence one CoA is issued for each operation not intermediate stages otherwise it becomes meaningless.
2. TRN: Technical Review Note or similar depending on MWS company terminology. These are a list of comments on the documents being reviewed.

Suggested Certificate of Approval format for a Loadout

MWS Company name: _____

Project No: _____ Certificate No: _____

UMR No: _____

Project Title

Loadout of the _____ on the barge by (lifting/skidding/SPMT)

at _____

This is to Certify that this office, acting on behalf of (the MWS Client) has reviewed the procedures
for the above operation in the document(s):

Title: _____ Doc. No: _____

Rev. No. _____

The undersigned has also witnessed the preparations for the loadout of the _____ on the barge at _____ in _____.

The referenced loadout procedure is satisfactory, and the proposed loadout is within the stated capacity of the crane/SPMT/equipment to be used and barge.

Subject to compliance with the stated procedures and any additional recommendations submitted by this office the loadout of the _____ onto the barge _____ is hereby approved.

Any alterations in the surveyed items after the issue of this Certificate of Approval may render this Certificate invalid unless approved by this office (prior to commencement of the operation).

This Certificate is issued in accordance with (terms and conditions, service contract, variation order etc.) dated _____. It is issued solely for the purposes of the proposed operation and is based upon external conditions observed by the undersigned of the hull, machinery and equipment without removal, exposure, operating or testing of parts.

For and on behalf of:	Receipt of this COA is hereby acknowledged by:
MWS Company name	Client company name
_____	_____
Print surveyor's name	Print name
SOMWS Membership No.: _____	
Time: _____	_____
Date: _____	_____
Location: _____ (port/town and country)	

Recommendations:

(Note: Recommendations are to be specific, measurable, achievable, reasonable, clearly listed and state the time by which the recommendation is to be completed)

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

Suggested Certificate of Approval format for a Sailaway

MWS Company name: _____

Project No: _____ Certificate No: _____ UMR No: _____

Project Title

Transportation on the (ships name)

From _____

To _____

Of the Project Cargo: _____

This is to Certify that this office, acting on behalf of (the MWS Client) has reviewed the procedures for the above operation in the document(s):

Title: _____ Doc. No: _____

Rev. No. _____

The undersigned has also witnessed the preparations for the voyage of the (ship's name) it is generally fit to undertake the voyage.

No responsibility is accepted by this office for the way in which the voyage is undertaken following departure.

Any alterations in the surveyed items and/or deviations from the approved procedures after the issue of this Certificate of Approval may render this Certificate invalid unless approved by this office (prior to commencement of the operation).

This Certificate is issued in accordance with (terms and conditions, service contract, variation order etc.) dated _____. It is issued solely for the purposes of the proposed operation and is based upon external conditions observed by the undersigned of the hull, machinery and equipment without removal, exposure, operating or testing of parts. This Certificate shall not be deemed or considered to be a general Certificate of Seaworthiness.

For and on behalf of:	Receipt of this COA is hereby acknowledged by:
MWS Company name	Client company name
_____	_____
Print surveyor's name	Print name
SOMWS Membership No.: _____	
Time: _____	_____
Date: _____	_____
Location: _____ (port/town and country)	

Recommendations:

(Note: Recommendations are to be specific, measurable, achievable, reasonable, clearly listed and state the time by which the recommendation is to be completed)

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

Suggested Certificate of Approval format for a Towage

MWS Company name: _____

Project No: _____ Certificate No: _____ UMR No: _____

Project Title

Towage of the _____ on the barge _____ by the tug(s) _____

From _____

To _____

This is to Certify that this office, acting on behalf of (the MWS Client) has reviewed the procedures
for the above operation in the document(s):

Title: _____ Doc. No: _____

Rev. No. _____

The undersigned has also witnessed the preparations for the towage of the _____ on the barge _____ from _____ to _____.

Towage by the tug "vessel name" owned by _____ is hereby approved based on

* a bollard pull of ____ tonnes as stated in the Certificate issued by company name on date

* an estimated realistic bollard pull of _____ tonnes
* *Delete as applicable*

and that it is generally fit to undertake the tow.

No responsibility is accepted by this office for the way in which the towage is undertaken following departure.

Any alterations in the surveyed items and/or deviations from the approved procedures after the issue of this Certificate of Approval may render this Certificate invalid unless approved by this office (prior to commencement of the operation).

This Certificate is issued in accordance with (terms and conditions, service contract, variation order etc.) dated _____. It is issued solely for the purposes of the proposed operation and is based upon external conditions observed by the undersigned of the hull, machinery and equipment without removal, exposure, operating or testing of parts. This Certificate shall not be deemed or considered to be a general Certificate of Seaworthiness.

For and on behalf of:	Receipt of this COA is hereby acknowledged by:
MWS Company name	Client company name
_____	_____
Print surveyor's name	Print name

SOMWS Membership No.: _____
Time: _____ _____
Date: _____ _____
Location: _____ (port/town and country)

Recommendations:

(Note: Recommendations are to be specific, measurable, achievable, reasonable, clearly listed and state the time by which the recommendation is to be completed)

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

Suggested Certificate of Approval format for an Offshore Installation

MWS Company name: _____

Project No: _____ Certificate No: _____

UMR No: _____

Project Title

Installation of the _____ by (crane vessel/HLV)

at _____ Offshore Wind Farm

This is to Certify that this office, acting on behalf of (the MWS Client) has reviewed the procedures
for the above operation in the document(s):

Title: _____ Doc. No: _____

Rev. No. _____

The undersigned has also witnessed the preparations for the installation of the _____.

The referenced installation procedure is satisfactory and the proposed installation is within the stated capacity of the crane/HLV/equipment to be used.

Subject to compliance with the stated procedures and any additional recommendations submitted by this office the installation of the _____ onto the _____ is hereby approved.

Any alterations in the surveyed items after the issue of this Certificate of Approval may render this Certificate invalid unless approved by this office (prior to commencement of the operation).

This Certificate is issued in accordance with (terms and conditions, service contract, variation order etc.) dated _____. It is issued solely for the purposes of the proposed operation and is based upon external conditions observed by the undersigned of the hull, machinery and equipment without removal, exposure, operating or testing of parts.

For and on behalf of:	Receipt of this COA is hereby acknowledged by:
MWS Company name	Client company name
_____	_____
Print surveyor's name	Print name

SOMWS Membership No.: _____

Time: _____ _____

Date: _____ _____

Location: _____ (port/town and country)

Append Recommendations and Checklist to each COA referring to the unique number of the Certificate of Approval on each page so that the documents can be associated with each other.

Recommendations:

(Note: Recommendations are to be specific, measureable, achievable, reasonable, clearly listed and state the time by which the recommendation is to be completed)

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

Suggested Certificate of Non-compliance

MWS Company name: _____

Project No: _____ Certificate No: _____

UMR No: _____

Project Title

Details of activity copied from the COA affected by this note of non-compliance.

On _____ day of _____, _____, a Certificate of Approval (Certificate Number _____), approving the activity or procedure subject to compliance with the Recommendations, was issued.

This Certificate of Non-compliance confirms that, on the date(s) and at the time(s) set out below the following events were observed which, in the opinion of the undersigned amount to non-compliance with the Recommendations in the Certificate of Approval or procedures in the following respects:

1. Recommendation (__). (Insert full details with dates, times, evidence relied on, photographs etc, emails etc.)

2. Provisions of (procedures) not complied with. (Insert full details with dates, times, evidence relied on, photographs etc., emails etc.)

For and on behalf of

MWS Company name

_____

Print surveyor's name

SOMWS Membership No.: _____
Time: _____
Date: _____
Location: _____ (port/town and country)

Receipt of this Certificate of Non-compliance is hereby acknowledged

Signed: _____
Print name: _____
Date: _____