

- Marine Warranty Surveys

MSB Ltd. provides warranty surveys to the Insurance industry to confirm that all imposed warranties have been complied with and that the project under inspection presents no extraordinary circumstances than those which might normally be accepted by Underwriters concerned.

MSB Ltd. is the largest provider of warranty surveyors to DNV Noble Denton marine services, Global Maritime and RINA Consulting. Over 50% of the entire MSB portfolio is performed on behalf of DNV Noble Denton ms and Global Maritime and is associated with provision of MWS surveyors, marine consultants and marine representatives since 2006.

For the last 20 years our surveyors have been employed by DNV Noble Denton and Global Maritime on major projects worldwide as Kashagan Oil Field Development for Agip KCO, Yuri Korchagin, V. Filanovsky phases I, II, III, V. Graifer for Lukoil, MedGaz, Dzhubga-Lazarevskoe- Sochi gas pipeline for Gazprom, Wingate project for Wintershall Noordzee BV, Baraka project off-shore Tunisia, TRAO Akcakoca development in Black Sea for GSP Romania, Thanet Offshore Wind farm, Dunlin Gas Project, BG Gaupe project for British Gas, Triton DC6 for Dana Petroleum, Borkum West II Wind Farm, Islay project, CLOV and Kaombo for Total, TEN for Tullow Oil, East Anglia I WOF for Scottish Power, Shah Deniz II for BP, Zohr and Baltim SW projects for ENI, TP-OTC and many others.

MSB offers the following warranty surveys:

- Floatover operations;
- Jacket and Top Side installations;
- Deep water Rigid and flexible pipelay – S-lay, J-lay, reeled pipe;
- Subsea power cables installations and repair;
- Towage and voyage approvals;
- Mooring approvals;
- Heavy lift loadout and load-off;
- Skidded loadouts of structures;
- SMPT operations;
- Heavy lifts stowage and securing approvals;
- Shipyard and site surveys;



MSB worked on the following major MWS projects for the period 2015-2025. Share among own MWS projects, DNV Noble Denton and Global Maritime is approximately 35% / 35% / 30%:

2025 D33 Oil Field Development

MWS office for the project. Attending for jacket piling, pipeline spool installations, weighing of Top Side and intermediate module, Lifting the Top Side for installation of intermediate module and transportation frame. Remaining to complete the Top Skidding to the installation barge, transportation to site and Floatover.

Sakarya Project, Phase 2A

Attended on behalf of Global Maritime as MWS onboard one of the world's most advanced PLV Castorone for mobilization activities, calibration and load tests of PTS and PHS, DP annual trials and pipelay of 16" trunkline in WDs 38 to 2160m, infield pipelines and PLETs installation. MWS attendance onboard Flexi lay vessel Seven Pacific for Loadout / Installation of 2x Well Umbilicals / 3x 6in. Flexible flowlines / 2x MEG 2.5in. flexible flowlines. Numerous MWS attendances in Europe for various equipment loadouts and transportations. Review and approval of project analyses and installation procedures.

MODU Briz reactivation, transportation and emplacement in Caspian Sea

MWS Office for the project. Review and approval of transportation and emplacement documentation for MODU Briz 2025 campaign in the Caspian Sea.

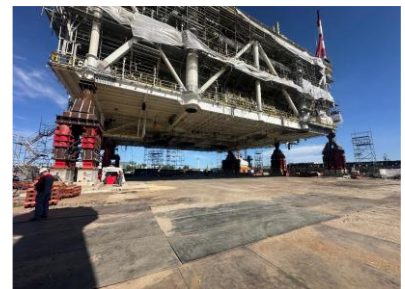
Quiluma and Maboqueiro Development Project, Azule Energy

Attending on behalf of Global Maritime as MWS for Quiluma jacket installation, Maboqueiro Jacket and Top Side Installation by S3500.

Review and approval of project analyses and installation procedures.

CLOV 3 phase, Total Energies

Review and approval of project analyses and installation procedures on behalf of Global Maritime. Performing



various suitability surveys.

Agogo Integrated West Hub project, Azule Energy

Attending on behalf of Global Maritime as MWS for various loadouts, suitability survey and installation scope.

Seagreen 3 Offshore Wind Farm Project, North Sea

Attending on behalf of DNV Noble Denton as MWS onboard Fall pipe vessel “Simon Stevin” for Subsea Rock Installation on Inter Array Cables and Cable Crossing Protections.



2024

D33 Oil Field Development

MWS office for the project. Attending for jacket launch and piling, pipeline and 2 x subsea cable installations, cable loadouts and various CMUs transportations.

Sakarya Project, Phase 2A

Numerous attendances on behalf of Global Maritime as MWS onboard all installation vessels. Attending for pipeline installation on PLB Castoro 10, onboard Flexi lay vessel Seven Pacific for Loadout, Installation of 2x Well Umbilicals, 3x 6in. Flexible flowlines, 2x MEG 2.5in. flexible flowlines, onboard LCV Normand Frontier for Loadout, Installation of PLET Mudmats, Sleepers, Buckling Initiators, etc. Numerous suitability surveys, Loadouts, transportations, load-ins and installation.



Decommissioning of D12-A P6-A P12-SW and RAVN Platform, Wintershall, North Sea

Numerous attendances on behalf of Global Maritime as MWS onboard decommissioning crane vessels, tugs, performing suitability surveys, etc.



Quiluma and Maboqueiro Development Project, Azule Energy

Attending on behalf of Global Maritime as MWS for top Side and jacket loadouts and transportation. Loadouts and transportation of various flexibles and equipment. Review and approval of project analyses and installation procedures.



Seagreen 3 Offshore Wind Farm Project, North Sea

Attending on behalf of DNV Noble Denton as MWS for OSS Top Side loadout by SPMTs and transportation approval



from Damen, Romania to Stord, Norway HLV Bigroll Beaufort.

OSS Rentel Wind Farm, Belgium

MWS onboard DSV Northern Victoria to carry out various operations including Diving operations in order to remove and replace the export cable of the OSS.

Also attending Rentel OSS platform for Cable repair scope of damaged 220-4 export cable – Pull-out / pull-in and connecting the new cable to the existing export cable.

Jackdaw project, Shell UK, Scotland

MWS attendance onboard PLV “Deep Energy” for spooling/installation operations of 12”/18” PIP.

GirFlow project, TotalEnergies

MWS onboard installation vessel Skandi Africa, transpooling and installation of flexibles, several attendances HLVs for flexible loadouts and transportation. Review and approval of project analyses and installation procedures.

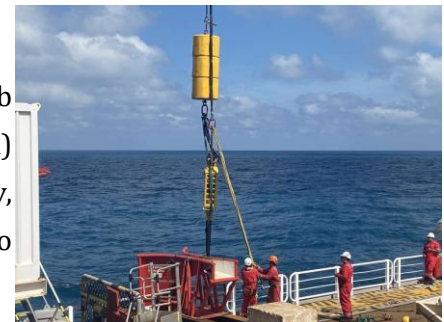
CABGOC – Sanha Manumeira Connector and South N’Dola Transportation and Installation Project

Attending as MWS for rigid pipelay of 16” SND Pipeline.

MODU GSP Saturn location move in Black Sea

MWS office for the location move of the jack-up rig GSP Saturn from base in Romania to Galata Offshore Field for a short drilling program.

Performing suitability survey of MODU GSP Saturn and marine spread for tow and drilling program.



2023

Keppel Seghers – IWMF Hong Kong, MWS for Integrated Waste Management Facility Modules

Attending at CHFI, Zhuhai, China Prefab 1-2 (6000t), Prefab 1-3 (6000t), Prefab 2-4 and Prefab 2-3 (2400t each) weighing, jack down, move with SPMT to load-out quay, load-out on cargo barge Giant 5, sea transport with cargo barge Giant 5 to Artificial island, Hong Kong.

Attending at CHFI, Zhuhai, China Prefab 3 modules C1, C2 and D1A (800t ttl) move with SPMTs and weighing, move with SPMT to load-out quay, load-out on cargo barge

EOS4001, sea transport with cargo barge EOS4001 to Artificial island, Hong Kong.

Ørsted Wind Power North America project

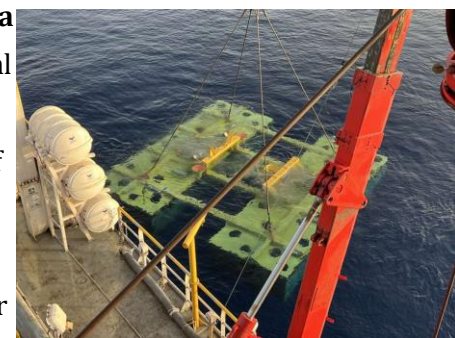
Attending as MWS for lifted load out with ship crane of Top Monopiles sections 560T each on board of M/V Fairpartner and sail way certification after seafastening.

Casiopea Project , ENI

Numerous attendances on Behalf of RINA Consulting for suitability surveys, HSE and vessel audits, loadouts, transportation and installation of X-trees, SDU piles, manifolds, cable lay, etc.

Epsilon field development project for Energean Oil & Gas in Adriatic Sea

Performing suitability survey, attending DP trials of the GSP Big Foot 1 pipelay barge/installation vessel. Attending jacket installation and pipelay campaign.



2022

Keppel Seghers – IWMF Hong Kong, Marine warranty for Integrated Waste Management Facility Modules

Attending as MWS in Hong Kong for Artificial Island site inspection of civil readiness for SPMT transport.

ENI – Agogo Early Production Phase 2, Offshore Angola

Attending MWS for Initiation (PLET A9 in JLT) and Normal Lay of Production Rigid Flowline 'PR-17', Laydown of Production Rigid Flowline 'PR-17' With Head, Recovery of Rigid Flowline 'PR-17' and Installation of PLET A-8, Recovery of Rigid Flowline 'PR-16' and Installation of PLET A-6, Initiation (With Head) and Normal Lay of Water Injection Line WI-9 by Saipem FDS, offshore Angola. Water depth ranges from about 200 m to more than 1,600 m.

SWEL - Seagreen Offshore Wind Farm

Attending MWS for transportation and installation of Export Cable EC-1 (1st end floating and pull-in at Landfall location, laying from landfall location to inline Joint Location, Inline Jointing between Cable EC1.2 and EC1.1, Laying EC1 from Inline Joint Location to OSP, 2nd Pull-in of EC1 to OSP). Export Cable EC-2 second end recovery (from

wet store) and Pull-in to OSP. Post-lay Trenching of the Export Cables EC-1 and EC-2 – Campaign 2 by CLV Nexans Aurora, UK North Sea.

Wintershall – Wintershall Q4-Decommissioning Project

Attending as MWS for various suitability surveys and decommissioning operations.

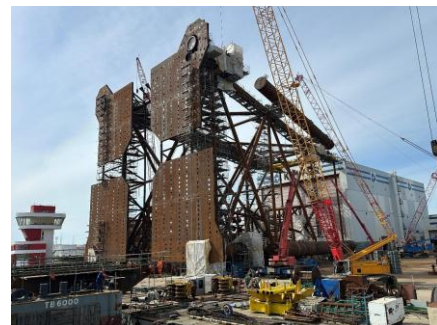
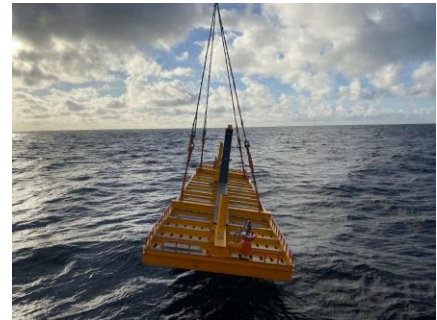
Graifer Oil Field Development, Caspian Sea

MWS Office for loadout, transportation through Volga/VCC/Caspian Sea and floatover installation of two ice resistant fixed platforms Top Sides; three AWTI operations – 6” 3LPE, 10” and 16” CWC pipelines.

Sakarya Project, Phase 1

Numerous attendances on behalf of DNV Noble Denton ms as MWS for numerous umbilical loadouts, transportation and installation, shift of MEG and Production flexible.

Performed numerous suitability surveys, loadouts/ins and transportation approvals – PLETs, X-trees, SDUs, etc.



2021

Graifer Oil Field Development, Caspian Sea

MWS Office for loadout, transportation through Volga/VCC/Caspian Sea and floatover installation of two ice resistant fixed platforms for the Graifer Oil Field Development; three pull-ins and pipelay operations – 6” 3LPE, 10” and 16” CWC pipelines.

Suitability survey of the DLV “Oceanic 5000”.

Consultancy scope of work – Installation (Laying) Infield Pipelines.



ENI – Angola Block 15/06 East Hub Development Project

Attending MWS onboard the FPSO “Olombendo” for turret winch wire rope change out.

SWEL - Seagreen Offshore Wind Farm

Attending MWS for transportation and installation of the Inter Array Cables (IAC) infrastructure and associated Cable Protection Systems (CPS) between the Offshore Substation Platform (OSP) and the turbine Foundations



(FOU) by CLV Maersk Connector, UK North Sea.

Marine Operations Lead for the project responsible for the review and approval of marine operations and marine spread, review of project documents. Performing suitability survey on main jack-up turbine installation vessel Wind Osprey. Review of loadout, NDT, transportation and installation procedures for towers, nacelles and blades. Approval of newly installed onboard crane. Attending numerous jacket loadouts W = 2, 170 to 2,300 T, approval of long-term mooring of loaded barges. Issued RCoAs for jackets loadouts and transportations. Taking active part in approval of new design Flange Lifting Tools.

Sangomar Project

Performing numerous Marine Assurance, Cranes and Lifting, HSE Audits for main installation vessels. Review of Audits results and close out of all Audits performed for the project marine spread.



2020

Dry Transportation of two minesweepers for the Ministry of Defence, Republic of Bulgaria from Amsterdam to Varna

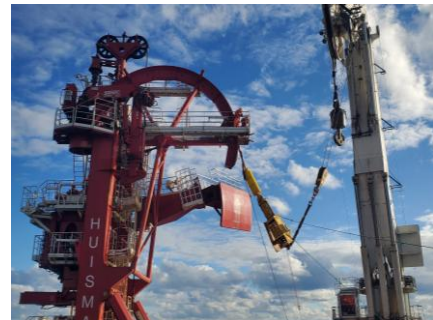
MWS office for float-in/off and dry transportation of two minesweepers for the Bulgarian Ministry of Defence onboard the semi-submersible heavy lift vessel Super Servant 4.

Gazpromflot Rig Moves, Navigation 2020

MWS Office for Gazpromflot Rig Moves, Navigation 2020. Reactivation and Towage of Semi-submersible drilling rigs Severnoye Siyaniye and Polyarnaya Zvezda from the port of Kholmsk, Russia to the shelf of Okhotsk Sea. Towage of Jack-up Rig Amazon from the port of Yamburg to Murmansk, Russia.

Load-in/out and Transportation of Irradiated Nuclear Fuel

Developing load-in/out, transportation and emergency transshipment procedures and relevant engineering for Specialized Containers with Irradiated Nuclear Fuel loaded



from Kozloduj Nuclear Power Plant, Bulgaria and transported through the Danube river and Cherna Voda channel to the sea port of Constanta, Romania.

Developing transshipment procedures for the port of Constanta, Romania on Baltiysky type specialized vessel for sea transportation.

Graifer Oil Field Development, Caspian Sea

MWS Office for loadout, transportation through Volga/VCC/Caspian Sea and floatover installation of two ice resistant fixed platforms for the Graifer Oil Field Development; three pull-ins and pipelay operations – 6” 3LPE, 10” and 16” CWC pipelines.



2019

Graifer Oil Field Development, Caspian Sea

Providing marine consultancy services to the pipelay installation contractor Vimar-Offshore LLC for three pull-ins and pipelay operations – 6” 3LPE, 10” and 16” CWC pipelines.



Novatek Arctic LNG 2 Project

Review and approval of GBS towage route, bathymetry, berthing/unberthing, towage procedures; approval selection of all towing and mooring equipment; towing arrangements, specification of marine spread, etc.

**Sakhalin Energy OPF Compression Project – Heavy Lift Transportation & Beach Landing Facility Operations
Sakhalin Island Beach Landing Facility**

Load-in Supervisor, Superintendent and Ballast Engineer on board the transportation barge HHIC-B1 responsible for the load-in of heavy lift units on SPMTs; performing beaching, anchoring and berthing of transit and transportation barges.



Sakhalin Energy OPF Compression Project – Heavy Lift Transportation & Beach Landing Facility Work

Providing consultancy for Heavy Lift Transportation and beach Landing Facility. Review and selection of mooring system and mooring equipment, towing equipment, inspection of tugs, etc.



Filanovskiy Oil Field Development phase III, Caspian

Sea

Loadout and Transportation of Filanovsky III WHP Top Side through VCC and North Caspian Sea. Performing Filanovsky III WHP Top Side Floatover. Review and approval of various marine procedures.

Baltim SW Platform T&I Project

Review and approval of various procedure regarding installation of subsea templates, pin piles, jacket, foundation piles, top side installation, jacket weighing, installation of spools and other T&I activities.

Shah Deniz 2 Project for BP, Caspian Sea

MWS attendance for:

- Initiation and normal lay of ES1 14" Flow line by PLBH "ISRAFIL HUSEYNOV";
- Installation of CTZs; ES DSSIV module and installation of FTA;
- Load-out, Sail-away and Installation of WS Cluster XTs No 13 and 14 by SCV 'Khankendi';
- Attending on board SCV "Khankendi" the Loadout & Transportation of EN1 & EN2 FTA Foundations & EN CTZs;
- Installation of 4x ES Pipeline Walking Anchor (PWA) Driven Pile Anchors (DPAs) and 8x Piles by SCV 'Khankendi' at Shah Deniz Field and Installation of 4x WS Pipeline Walking Anchor (PWA) Driven Pile Anchors (DPAs) and 8x Piles by SCV 'Khankendi' at Shah Deniz Field.

Spirit Energy Rig Move from Andromeda Subsea Well to Chiswick platform location

Marine Assurance inspection of the Lead AHV Fairplay 33 at Rotterdam, The Nederland and AHT Multratug 4 at Vlissingen, The Netherlands.

Reliance Block KG-DWN-98/3 (KG-D6) R-Cluster Field Development Project.

Attending on board DLV 2000 Pipelines laying, PLETs installation and Riser and Riser protection frame installation. Water depths up to 2000m.

East Anglia One WOF



Attendance as MWS on-board Boskalis vessel “Ndurance” for Loadout of 14x Interarray Cables of Overall Length 40.5km while moored at Victoria Deepwater Berth at Hartlepool Harbour, UK

Scottish Power Renewables East Anglia 3 North HDD Duct Tow, Installation, Ballasting and Backfilling

Attendance as MWS for East Anglia 3 North HDD duct (1059m) tow out to installation site. Subsea pull-in installation of HDD duct at EA3 North Pit. Ballasting of duct via Rockbag installation followed by backfilling works. Flooding and Calibration of EA3 North HDD duct; Subsea Installation of Rockbags and Backfilling of EA3 North pit=

2018

Kaombo SUL FPSO, Angola, Block 32

Review and approval of various procedures for FPSO tow, emergency towing, navigation and bridging documents, ERP, survey, etc. Attending Installation of Water Injection Well Jumper by LCV Bourbon Ocean Team 101. Water depths 1400m. Transpooling of production flexible jumper on installation vessel “Skandi Africa” from HLV “Happy River” at Sonamet, Lobito, Angola.

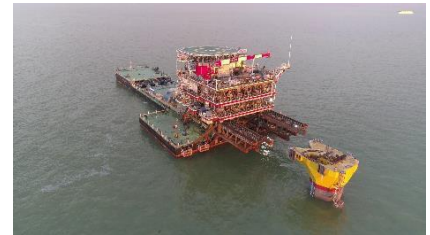
East Anglia One WOF

Review and approval of various procedures for ABCO duct collection, transfer to site, pull-in, etc.

Attendance as MWS for East Anglia 1 Subsea Export Cable Lay up to Mid-line Joint (43.92 km) onboard Vessel “Maersk Connector” using ACP2 plough:

- Subsea Horizontal Pull in through EA1 North HDD duct (1052m) to onshore winch. CLV grounded and 8 skids with anchors and DP, assisted by 3 Anchor Handling Tugs and Main Tow Tug “Sentosa”; 5 Crossing Regions; Cable 2nd End Laydown; Simultaneous Lay and Burial Using ACP2 Plough.

Attendance as MWS for East Anglia 1 South HDD (1048m) tow to installation site. Subsea pull-in installation of HDD at EA1 South Pit.



Attendance as MWS onboard Vessel “Volantis” for East Anglia 1 North Subsea Export Cable Jetting and Burial using UT-1 trencher.

Attendance as MWS onboard vessel “Volantis” for the subsea installation of 108 fronded concrete mattresses (8.6 tonnes each) using an Intelligent Mattress Frame equipped with Dual Gemini Sonars along the route of EA1 North Subsea Export Cable.



Filanovskiy Oil Field Development phase III, Caspian Sea

Offshore Consultant onboard CLV “Atlantic Supporter” for Vimar Offshore for installation and post burial of two power cables and 1 geotech cable. OCM in charge for:

- Two sub-sea power cable loadouts, transportation and installations;
- Cables first and second ends pull-ins;
- Cable protection and bent restrictors installation;
- Cable trenching and post burial.



Korchagin Well Head Platform Fork-Lift Floatover, Caspian Sea

Floatover Marine advisor to CHT, Russia and OCS Singapore for transportation and installation of the world’s largest fork-lift floatover (W=2,800 t). In charge of entire marine spread, preparation of the Korchagin WHP top side for and TMB barge for towage and floatover operation; Tow Master for the tow through the Caspian Sea; Performing the TMB barge (140x62 m) slot entry and exit.



Filanovskiy Oil Field Development phase III, Caspian Sea

Providing marine warranty services and attending the weighing and transportation through Volga/VCC/Caspian Sea of the Well Head Platform Substructure. Attending onboard the crane vessel Gurban Abassov for crane assisted ballasted installation of the Substructure and piling of the Well Head Platform Substructure.



Document reviews of transportation and installation procedures, as-built surveys, pre-installation surveys and bathymetry reviews; attending HAZID/HIRA and kick-off meetings.

Reliance Block KG-DWN-98/3 (KG-D6) R-Cluster Field Development Project.

Review of procedures and MEP for DLV 2000 pipelines and PLETs installations. Suitability survey of the DLV 2000.

ENI Angola Block 15/06 – East Hub Development Project

Attending Loadout of UM8 Jumper WAG onto CB JMC 2514 at PMT yard, Ambriz, Angola.

Attending Sailaway of UM8 Jumper WAG onto CB JMC 2514 from PMT yard, Ambriz, Angola to Offshore East Hub Field.

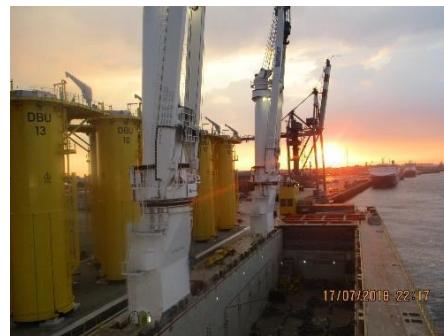
Petrobel - Zohr Field Development Project - ORU Phase

Attending Pre-commissioning, Jumpers and Flying leads installation activities on board of installation vessel “Far Samson”, Zohr field, Offshore Egypt. Water depths 1100-1700m. Attending Post-lay Trenching operations of 30” gas export and 8” glycol injection pipelines on board TSV “MO Toucan” Offshore Egypt.

Shah Deniz 2 Project for BP, Caspian Sea

MWS attendance for:

- Loadout, Sailaway and Installation of WS Cluster XTs No 13 and 14 by SCV ‘Khankendi’;
- loadout, Transport & Installation of EN DSSIV module and installation of 4 off 42” Foundation Piles for 12” WS DSSIV Foundation;
- Lifted installation of the 12” WS DSSIV and 4xpiles by SCV “KHANKENDI”;
- Lifted installation of 4 x WF PWA DPA & 8 x Piles by SCV “KHANKENDI”
- Lifted installation of 12” DSSIV Foundations by SCV “Khankendi” at EN and ES cluster locations;
- FBS installation in WS1 location by SCV “Khankendi”;



2017

- Load-in and Loadout of 6,175 MLPP and Bare Pipe Joints from m/v “AP Dubrava” to pipe carriers.
- Numerous suitability surveys of vessels and loadouts of reels for RHD systems;

Filanovski Oil Field Development phase III, Caspian Sea

Providing consultancy scope for the T&I Contractor Vimar Offshore for installation of two power cables and 1 geotech cables.

Providing advice for:

- Cable installation methodology and choice of suitable CLV. Deck layout. Choice of cable lay spread;
- Cable first and second ends pull-in methodology;
- Cable protection and bent restrictors;
- Cable installation and burial methodology and choice of sub-contractor and equipment;
- Preparation of various procedures;

Total E&P Angola Block 32 – Kaombo Project

Suitability survey of the LCV Mearsk Attender.

Attending Installation of Production Rigid Jumper by LCV North Sea Atlantic. Water depths 1600m

Attending Mobilization, spooling and installation of PiP Production flowline by MCV Deep Blue. Water depths 1425-1925m

Attending FPSO CBLs loadout onto BOA22 in PTM yard Ambriz, Sailaway using tug Jascon 12 to Porto Amboim and CBLs offloading from BOA 22 in Paenal yard Porto Amboim, Angola.

Suitability survey of the tug Lucala.

ENI Ghana OCTP Development Project

Attending Local Mobilization and Sailaway of MCV Lewek Connector, Installation of Flexible Risers and Umbilical with UTA. Water depths 2400-2600m.

Attending Reels transfers from HLV Industrial Grace to the MCV Lewek Connector.

Attending AFLATs transfer from MCV Lewek Connector to the UOS Discovery and Sailaway of the UOS Discovery.

Suitability survey of the OUS Discovery, OCV Bourbon



Homere and Alleco Commander.

Installation of 6" flow lines (fop4a and fop4b); First end deployment, Normal lay and Second end laydown for Umbilical USE-2, ROP4; Installation of RWI1 Flexible Riser and FWI1 6" Flowline.

V. Filanovsky II field development project, Caspian Sea.

Floatover Marine advisor to CHT, Russia and OCS Singapore for Filanovsky phase II 2017 campaign for loadout, transportation and floatover installation of for two top sides – LQ-2 and IFP-2. Based in Astrakhan, Russia.

Responsible for and managing on site the marine operations - transportation and floatover of IFP-2 and LQ-2 Top Sides.

Managing the marine spread and installing the connecting bridge between IFP-2 and LQ-2 platforms using Bumi Installer 800 t revolving crane.

Attending the transportation and installation at offshore site of the Temporary Accommodation Block for LQ-2 Platform.

Review of procedures for laying of two power lines and six geotech cables. Providing additional consultancy scope for the T&I contractor for installation of the power cables.

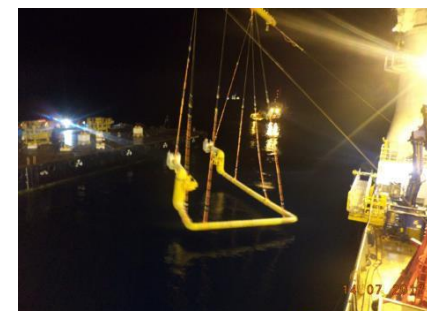
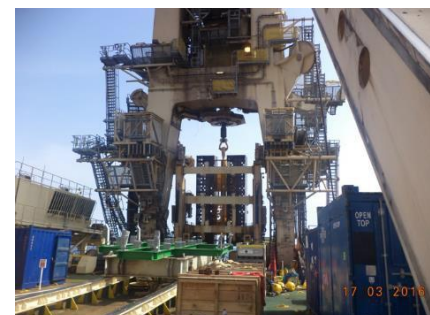
V. Filanovsky II field development project, Caspian Sea, MWS Scope.

Marine warranty services for approval of DP CLV East River. Approval of cable loadout and installation spread for two power and six geotech cables. Attending entire cable installation campaign for 2 x subsea power cables and post-burial operations.

Shah Deniz 2 Project for BP, Caspian Sea

MWS attendance for:

- Loadout and installation of NF1 and NF2 umbilicals;
- Transportation of XT2, XT3, XT4&XT5 Well Jumpers;
- Numerous suitability and transportation surveys.



2016

DNV GL R&D – Feasibility of shared anchor points for a Floating Offshore Wind Turbine (FOWT) Farm – Awarded with Certificate and Bronze Medal by the Institution of Mechanical Engineers (IMechE)

- Design and development of shared anchor mooring patterns;
- Design, followed by static and dynamic analysis of the FOWT Tower, Controller and Nacelle under Hywind II, Buchan Deep operating conditions, using the FAST software;
- Design of the SPAR substructure in Patran
- Design and stability Analysis of the SPAR type substructure in ANSYS AQWA
- Coupled dynamic analysis of the single turbine model in OrcaFlex and FAST, followed by design, static and dynamic analysis of the shared anchor wind farm in OrcaFlex in the Ultimate and Accidental Limit States (ULS and ALS)
- Risk Analysis via BowTie Diagrams and extensive Hazid of all key wind farm components
- Design of buoy type to act as a shared connection
- Development of marine installation, maintenance and decommissioning procedures

Mooring Deep Water Development for Mirae FPSO, Gulf of Mexico

Mirae FPSO 100-year return mooring research & sensitivity case study for Chevron. Investigating the feasibility of moored vessels in hurricane conditions in the Gulf of Mexico

Filanovskiy Oil Field Development phase III, Caspian Sea

Floatover Marine advisors to CHT, Russia and OCS Singapore for Filanovsky phase II 2017 campaign for loadout, transportation and floatover installation of for two top sides – LQ-2 and IFP-2. Based in Astrakhan, Russia.



Responsible for and managing on site the marine operations - transportation and floatover of IFP-2 and LQ-2 Top Sides.

Managing the marine spread and installing the connecting bridge between IFP-2 and LQ-2 platforms using Bumi Installer 800 t revolving crane.

Attending the transportation and installation at offshore site of the Temporary Accommodation Block for LQ-2 Platform

Review of procedures for laying of two power lines and six geotech cables. Providing additional consultancy scope for the T&I contractor for installation of the power cables.

Kaombo Field Development, Total E&P Angola, Block 32

Review of docking plans and procedures for 320,000 dwt taker to be converted as FPSO.

Attending HAZID and HIRA sessions with the T&I Contractor CHT Heerema for DW Flowlines and FLET installations using DCV Balder.

Attending HAZID and HIRA sessions with the T&I Contractor Technip for SURF Flexible Jumpers installation to FPSO, transportation of spools and project equipment.

Angola Block 15/06 East Hub – SURF, ENI

Attending HIRA and HAZID sessions for jumper, spools and X-mas tree installations. Suitability surveys of the Barge Seaways 23 and AHT Tricia K.

Tullow TEN Project

Attending Local Mobilization and Sailaway of MCV Deep Energy, Installation of WI and GI rigid flowlines with PLETs. Water depths 1000-2000m.

Suitability survey of the Bourbon Hera.

FPSO Petrojarl I at Damen Shiprepair Yard

Attending upgrade of FPSO at Damen Shiprepair Yard. MWS attendance for E-House transport and Installation onboard FPSO “Petrojarl I”.



Shah Deniz 2 Project for BP, Caspian Sea

MWS attendance for:

- Lifted Deployment and Wet Store of several 32" spools;
- Initiation, normal and laydown of 32" Export Pipeline;
- Installation of 14" WF1 and WF2 flowlines;
- Initiation of 18" pipe WI pipe line, Normal Lay, Cross Over Pipe Lay and Final Lay Down of 18" WI pipeline;
- Initiation, normal lay and final laydown of the 32" gas export pipelines # 1 and No2



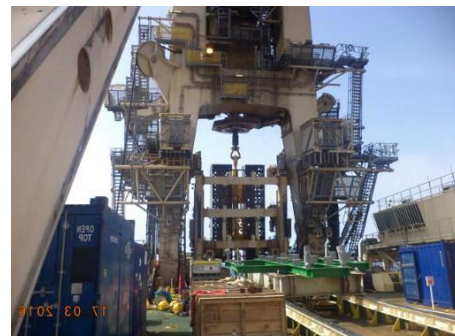
2015

Filanovskiy Oil Field Development phase II, Caspian Sea

Providing consultancy and installation superintendent services for the T&I Contractor Caspian Hydro Technologies for Filanovsky phase II 2016 campaign for pre-marine warranty approval of transportation and installation of sub-structures for two platforms – LQ-2 and IFP-2. Based in Astrakhan, Russia.



Attending the transportation and installation of the LQ-2 substructure W = 2,430 mts, IFP-2 substructure W = 6,120 mts. Performing barge superintendent duties for installation of piles.



Early review and preparation of procedures for two top sides transportations and floatover operations in 2017.

FPSO Petrojarl I docking in Damen Shiprepair, Rotterdam

Review of docking procedure and docking plan approval. Attending on site for the docking operations of the FPSO Petrojarl I at dock # 8 in Damen Shiprepair, Rotterdam.



Development of Deepwater URF Installation Procedures – Basis of Design

Development of Deepwater URF Installation Procedures– Basis of Design. Preparation of HIRA and attending HIRA meetings for URF deepwater installations.

FPSO Kaombo docking in Sembawang Shipyard, Singapore

Review of docking and ballasting procedures and docking plan approval.

Tullow TEN Project

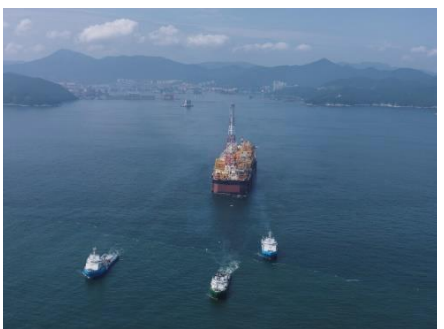
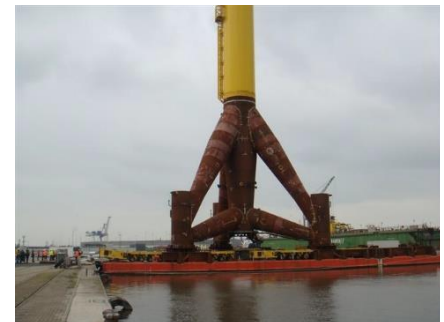
Attending HSE and lessons learnt meeting at Technip Flexi France for TEN project – heavy lift shore crane and HSE for loadout of 31 flexibles.

HIRA for Pipe Carriers Berthing to Borealis and Transfer of Pipes from Carriers to Borealis at Suresnes Subsea 7 office, Paris

Attending several Loadouts of Suction Piles, Manifold, Riser Base and PLETs onto CBs and several Sailaways. CMIDs and Suitability surveys of the Pacific Brigand, Pacific Avenger, Pacific Patriot, Pacific Porpoise Loadout and Transportation of SFL and EFL onto LCV Simar Esperansa

Attending Mobilization HLV Tokyo with MCV Deep Pioneer and Supply vessel Bourbon Calm, Load outs Reels, Hold-back piles and SOM/Transpooling Flexibles GI flowline and OP Risers , Transportation and Installations of Hold-back piles, Step over module, Flexibles WI & OP Risers. Water depths 1000-2000m Attending Mobilizations HLV Happy Ranger with LCV Viking Neptune. Loadouts/Offload Umbilical Reels, Transportation and Installations of the several Static Umbilicals and Riser. Water depths 1000-2000m Numerous attendances in Flexi France for mobilization of four HLVs and Lay spread on LCV Viking Neptune.

ENI Congo Marine XII Block Lichendjili Gas Development



Attending Installation of Jacket, Piles, Deck and Deck Structures. Suitability survey of the AHTS Bourbon Thalie, HLV “SAIPEM 3000”, AHT “ARMADA TUAH 81”, “LEWEK CHANCELLOR”

STATOIL MARINER JACKET EPC

Suitability survey of cargo barge Wagenborg 9

Attending Piles Loadout at Bow Terminal, Vlissingen, The Netherlands, using MLC and SPMT.

GDF DEVELOPMENT CYGNUS PROJECT

Attending Trailered Loadout of AUQ TS in Methil, UK.

Installation of FPSO STL Buoy in the Mariner Field

Towing of the STL Buoy from Tananger to the Mariner Field by the towing and AHT vessel BB Worker. Pile anchors, mooring lines (chains, TDPs and WSS) installation and hook-up of a turret FPSO STL Buoy.

Mariner Project for Statoil, UK Sector North sea

Loadout of steel jacket piles on board the Wagenborg-9 barge at Middelburg, Netherlands.

FPSO CLOV for Total E&P Angola

OLT towage from Lobito to CLOV Field (off-shore Angola) and the hook-up of the OLT Buoy at the CLOV Field) as well as the installation of the two FOCs and the first OOL between the FPSO and the OLT Buoy

