GLOBAL MARITIME

GM
NEWSLETTER

DECEMBER 2019

JONNY LOGAN

DEAR ALL, WELCOME TO OUR FINAL NEWSLETTER OF 2019.

The end of the year is a good time to both reflect on the last 12 months, but also to look ahead to 2020.

Starting with a look over our shoulders; 2019 has, in many ways, been a very positive year for Global Maritime. We have seen growth in the business across all business streams, and this has meant new colleagues with some fantastic skillsets in nearly all our offices. We have had some exciting project wins in recent weeks too; both from the point of view of the size of the projects, but also in terms of the subject and nature of the work, resulting in interesting new challenges for many personnel.

In the last 6 weeks alone, we have secured the following projects, totalling more than 250M NOK (27.5M USD / 20M GBP):

- 3rd Party Marine Services for ADNOC in the UAE.
- Mooring Replacement 2020 Campaign for Equinor in Norway.
- Jotun FPSO Life Extension Project for Worley Parsons in Norway.
- SRtP Assessment for BN 153 for MV Werften in Germany.

Some of the new projects that represent new or interesting challenges are GM London's first project in deep-water decommissioning MWS, the design of a floating solar plant mooring system and the upcoming installation of a Fibre Optic Control cable by our Marine Operations Team.

We have seen growth in the business across all business streams!

2019 has seen GM take even more steps in improvements to our global collaboration, service offering and standardisation. We have launched our revised internal MWS Method Statement and MWS Policy and it has been great to have been part of some of the inter-regional experience transfer sessions, and to hear the very positive feedback from these and from the other global initiatives that have been ongoing recently.

Some of you will also have noticed some changes to our website over the last couple of weeks and the associated posts on our social media accounts. We have updated our Renewable Energy pages to include more details of the extent of our involvement in this fast-growing market sector, to date. The updates include an interactive map of all the offshore wind farm projects in which GM has participated (and will soon also include our wave, tidal and solar projects too). It's amazing to think, that in a few short years, GM has taken part in 65 different offshore wind farm projects, in which a total of 27 giga-watts of power generation capacity has been installed.

Looking ahead to 2020 and beyond, there's no doubt that offshore renewable energy will form an increasingly large part of GM's service provision, and in a rapidly expanding number of geographic locations. My first 'GM' project in offshore renewables was the MWS of the Westermost Rough OWF, in 2012. At that time, this was a milestone project as it was the first ever commercial installation of a 6 mega-watt (MW) offshore wind turbine.

Here we are, not even 6 years since the first of those turbines was erected (this occurred in 2014), and we are now working on projects where 12MW units are planned, with even some possibility of seeing 14MW turbines in the near future.
And the scale of technological advancement is unlikely to stop there. Floating wind turbine technology is gathering pace and there are even credible plans to use offshore floating wind turbines to generate hydrogen. This is a move that has the potential to drastically alter the world's future energy distribution networks and that is seen by many as a key step towards a de-carbonised economy.
As exciting as these future renewables opportunities are, 2020 will undoubtedly see a lot of interesting projects in our other key market sectors. There have been a large number of LNG projects recently sanctioned, the pipeline for FPSO/FSO projects is healthy in many areas (for both new projects and life extensions), the cruise vessel market remains highly active and brings new opportunities in Safe Return to Port assessment, and the offshore drilling market is seeing signs of a recovery at last (particularly in the Middle East, where 2020 promises to be an extremely active year, especially compared to recent levels).

The last thing that remains is for me to thank our whole team for their continued hard work and dedication over the last 12 months, and to wish all our personnel who celebrate it, a very Merry Christmas and a prosperous New Year, when it comes.

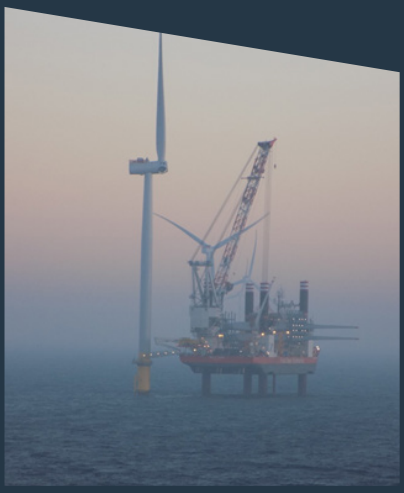
GM AT HORNSEA 1, THE WORLD'S LARGEST OFFSHORE WIND FARM

BY PERIKLIS HOEGGER

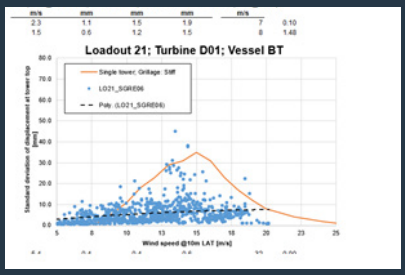
A milestone for the renewables industry, the "blue ribband" of offshore wind farm capacity since September 2019 is held by Orsted's 1.2 GW Hornsea 1 wind farm. Almost twice the size of its closest competitors, Walney Extension and London Array. The future too is looking promising for the Hornsea name; apart from unconfirmed plans in APAC (primarily Korea), the European competition of the 1.4 GW Dutch farms (Borssele & Hollandse Kust) and the UK's combined 3,6 GW Dogger Bank cluster (Creyke Beck A, B & Teesside A farms) might come close but won't beat the Hornsea cluster. Orsted is well underway with the 1.2 GW Hornsea 2 and is already in planning stage for the 2.4 GW Hornsea 3.

Orsted purchased 30% of the field back in 2011; the remainder four years later and in as many years sold 50% of it. CAPEX is undisclosed and estimated at more than 2.5 billion USD. To this date is it is the furthest wind farm from shore, located 120 km from the UK Yorkshire coast and has a total of 174 Siemens Gamesa 7MW wind turbines (190m from sea level with 75m long blades), the longest ever AC export cable (467km in cumulative length) and three 400MW offshore substations. The Siemens Gamesa blade factory in Hull was the feeder port for two Jack-up vessels, Bold Tern from Fred Olsen Wind Carrier (FOWIC) and Sea Challenger from A2Sea. Over 44 cycles, these vessels loaded and transported the blades, nacelles and towers in batches of 4.

GM was extensively involved in the WTG (turbine) package, providing MWS services for Orsted and conducting the SSAs for FOWIC's Bold Tern, while the tower grillage on Sea Challenger was also designed by GM back in 2016, for the Burbo Bank Extension.



Despite its size, the installation concept for Hornsea 1 didn't differ from smaller wind farm and our original expectation was the same in terms of the engineering and MWS challenges. Nevertheless some very interesting challenges existed; mainly those due to the long duration of the project (10 months) and the regular re-use of seafastening and grillage structures in a high load environment.



The project was a great example of cooperation, involving personnel from all the European offices. The SSA's for Bold Tern were undertaken by James Adcock and his team in London, the MWS scope was run from Hamburg, the engineering approvals for the fatigue monitoring programs given by Jonny Logan, the tower displacement monitoring approvals by Paul Goodwin and the day to day MWS project management by Anastasios Atsonios.

Essentially the MWS scope was redefined to include approval of an ongoing R&D program which had to be proven during installation.

FLOATING SOLAR PILOT PLANT

Global Maritime Norway is currently developing a design for a floating solar plant to be installed at a location in Asia. This project is a good example of how experience from oil and gas, aquaculture and floating bridge design can be utilized to push into emerging renewable energy markets.

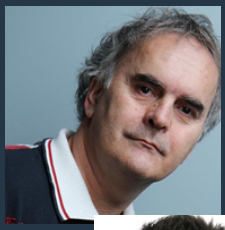
During recent years, floating solar technology has had a rapid growth. Installing the panels on floating modules instead of on land has several advantages; among them is increased efficiency due to natural cooling from the water. In addition, land consumption is avoided which allows the plants to be installed in areas previously considered unavailable for solar power.

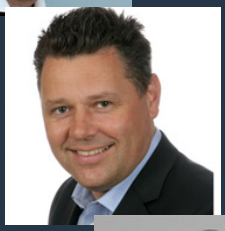
The floating solar pilot plant consists of several floating units, each with solar panels mounted on top. The floating substructures are manufactured using standard components from other industries such as aquafarming in order to maintain a low cost level. The units are connected and moored using a combination of chain, fibre rope and buoys.

Previously, floating solar plants have typically been installed on lakes or artificial basins. In this project, the location will be at sea, which increases the requirements for the plant to withstand wave loads. An important part of the design phase has therefore been to verify the plant performance in waves. When it comes to mooring system design, experience from both aquaculture and floating bridge design has proven useful in order to find a configuration which limits the motions and at the same time does not result in excessive loads on any of the floating units.

Global Maritime will deliver detailed engineering documents for fabrication, procurement and installation in February.

This project is being undertaken by GM Norway, by a team comprising Romeo Costescu, Reid Stoke and Anders Habostad.





HSEQ
END OF YEAR

BY HANNAH CRUTCHLEY

There has been many positive HSEQ improvements throughout 2019, including the implementation of the Global SharePoint BMS site and NetSuite which allows global sharing of HSEQ Cases (including the new Lessons Learnt report). Well done to all of the offices which have embraced the HSEQ reporting system, especially Houston!

In 2019, the Group also migrated to ISO 45001:2018 replacing OHSAS 18001 which is structured on the ISO 9001 series, including a focus on Top Management Commitment and Risk Management.

A reminder for everyone, during the Christmas and New Year holidays, when we're relaxing and having fun with our loved ones, the risk of accidents and injuries increases. Though we're off work and school-related duties, we start rushing, stressing, shopping and attending social engagements; we're confronted with more road congestion; we tend to eat and drink to excess; and we're more exposed to the dangers lurking in our homes. Please remember to be vigilant and I wish you all a happy and Safe Christmas!

Here are some Safety tips to remember during this period:

Link: RAC Driving at Christmas

Link: Fire Safety