



(image: courtesy RWE)

'Stanislav Yudin' installing a monopile

Offshore: where excellence meets execution

Having built over 20 years' experience in the Oil & Gas industry, Seaway Heavy Lifting turned its extensive expertise to renewables – particularly wind energy. The offshore contractor has already gained a reputation for excellence and an impressive track record. We take a look at its project highlights.

SylWin alpha Platform

Transportation and installation of the SylWin alpha Platform. Under the direction of Seaway Heavy Lifting, one of the world's largest converter platforms was installed to the west of Sylt, the East Frisian Island.

The platform was so large and heavy that the ingenious 'float-over method' was used to lift it from a pontoon on to the already installed jacket. This approach had been used successfully in the Gulf of Mexico and in the Far East, but this was the first time that a platform this size was installed using the method in the North Sea.

Siemens commissioned Seaway Heavy Lifting to perform the unusual operation, and in turn called in the assistance of two other Dutch maritime service providers. The 14,000Mt SylWin alpha Platform topside was transported on a pontoon that had been positioned in between the jacket legs.

The platform topside was installed on to the legs of the jacket by ballasting the pontoon and a subcontractor was responsible for this phase. Afterwards, strand-jacks were used to lift the platform to its final height above the sea.

The 83-metre long, 56-metre wide and 26-metre high SylWin alpha Platform is the largest of its type. Earlier this year, Seaway Heavy Lifting used its crane vessel 'Oleg Strashnov' to install the 5,800Mt jacket. The 'Oleg Strashnov' is one of the world's 'strongest' crane vessels but it is not strong enough to lift the SylWin alpha jacket. Therefore, the decision was taken to add additional buoyancy in the form of buoyancy tanks and to submerge the pontoon on site. This complicated operation has been preceded by more than a year of preparatory work.

As a contribution to sustainable energy provision, Northern Europe already has 40 offshore wind farms in operation and another 40 will be installed in the coming 10 years. TenneT, the grid manager, is installing the offshore electricity grid in the German and Dutch sectors of the North Sea to which the wind farms will be connected. Dutch offshore companies are playing an important role in installing the wind farms and the electricity grid.

Jan Willem van der Graaf, CEO Seaway Heavy Lifting said: "With the installation of the 20,000 Mt (including its jacket) Sylwin



SylWin alpha Platform as installed

alpha platform, Seaway Heavy Lifting and its partners have completed a challenging offshore operation. Our vessel, 'Oleg Strashnov', and crew did very well on the complicated jacket installation. In addition, a float-over of this size is a first in the North Sea. Together this made for a signature offshore installation project. We see this as an excellent example of what Seaway Heavy Lifting has to offer the developing offshore wind sector in Northern Europe."

Sheringham Shoal Offshore Wind Farm

For Sheringham Shoal Offshore Wind Farm (SSOWF) Seaway Heavy Lifting installed and transported 66 monopiles, 71 transition pieces and two substation topsides. SSOWF is owned by Scira Offshore Energy Limited (a joint venture company equally owned by Statoil AS and Statkraft).

Installation took place from April to August 2011 and employed the services of Seaway Heavy Lifting's crane vessel "Oleg Strashnov".

The 317MW SSOWF, located approximately 20 kilometres off the coast of North Norfolk in the UK, comprises 88 wind turbines and will generate around 1.1TWh of green energy per annum. This is enough clean energy to power almost 220,000 British homes. Sheringham Shoal Offshore Wind farm was fully operational in late 2012.



'Oleg Strashnov' installing monopiles for Sheringham Shoal Offshore Wind Farm

Recently Seaway Heavy Lifting has been awarded another contract by Statoil AS and Statkraft for the transportation and installation of 67 foundations and one substation as part of the Dudgeon Offshore Wind Farm project.

The contract will cover storage, transportation and installation of monopiles, transition pieces, jackets and the offshore substation jacket and topside. The monopiles to be installed vary from 60-78

metres in length and 600-1000 Mt in weight. The substation topside weight is estimated to 2000 Mt.

Seaway Heavy Lifting's, Senior Vice President Renewable Energy, Bob Dunsmore commented: "The award of this prestigious contract provides Seaway Heavy Lifting with the opportunity to build on our existing relationship with the Dudgeon Offshore Wind Limited owners.



'Stanislav Yudin' installing a tripod for Borkum West II



'Oleg Strashnov' installing a substation for Gwynt y Môr

Our business strategy is based on building long term relationships with our clients through high performance and a collaborative and fair approach. We believe this award is a validation of our strategy and consolidates our market leading position in the UK and wider European offshore wind markets.”

The 'Oleg Strashnov' will be utilised for the inshore loading, transportation and installation of the monopile foundations from a storage site to the offshore Dudgeon installation site. The 'Oleg Strashnov' is a self-propelled DP crane vessel with a main hook capacity of 5000 Mt and a hook height of 100m above sea level. With a maximum deck load of 8500 Mt 'Oleg Strashnov' is capable to carry four monopiles, four transition pieces.

Borkum West Offshore Wind Farm

In 2013, Seaway Heavy Lifting was responsible for the transportation and installation of 40 tripods and installation of a transformer station. Both of the company's crane vessels transported and installed tripods for this project. The 'Oleg Strashnov' and 'Stanislav Yudin' sailed to Bremerhaven and Eemshaven to collect the tripods to reduce the risk of weather standby.

The BWOWF is located about 45 km north of the East Frisian island of Borkum, north of Germany.

Gwynt y Môr Offshore Wind Farm

Gwynt y Môr offshore wind farm (GyM) is located in the Irish Sea off the coast of North Wales (Liverpool Bay). In 2013, crane vessel 'Stanislav Yudin' successfully transported and installed 80 monopile foundations and 61 transition pieces.

Noteworthy: during the installation campaign, the vessel anchored out with up to eight anchors at 109 locations without any accidents.

Toby Edmonds, RWE's project director for Gwynt y Môr says; “the 'Stanislav Yudin' working with the Gwynt y Môr team achieved an excellent installation record, completing on average more than one location every day”.

Early involvement / experience gained

The offshore wind industry is a relatively young sector that commenced onshore and is almost similar to the offshore development of the Oil & Gas (O&G) industry, which started at the end of the 1960s. Unfortunately in some cases this new industry also copies the same learning curve, instead of using lessons learned.

Experienced contractors will start at the end of that curve, will develop new methods to improve efficiency and to cope with the repetitive nature of, for example, the

Transport and Installation (T&I) of turbine foundations, which differs from the O&G industry.

The transportation and offshore installation of HVAC / HVDC transformer platforms is the same as that for the O&G platforms, hence lessons from O&G deliver added value. The late involvement of the T&I contractor also differs from the O&G industry where it is recognised (learned over time) that it pays off to consult the T&I contractor at the early stages of the project development as early as the FEED.

Seaway Heavy Lifting is a great believer in early involvement whereby a proactive approach together with the client pays off. Lessons can then be incorporated at the early stages of a development thus avoiding frustrations during the project execution. The executed projects presented here and the recent awards are, among others, a result of this belief. ■