

DUDGEON **Offshore Wind Farm**

Operated by Statoil

Autumn 2015

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Onshore construction on the cable route and at the Necton substation will continue to gather momentum this year. preparing for the challenging offshore installation campaigns in 2016 and 2017.

> Halfdan Brustad Statoil's Vice President and Chairman of the Dudgeon Board of Directors

Cable corridor after trenching

Dudgeon onshore cable installation well under way

In March 2015 Carillion Utility Services started work to install the longest UK onshore underground cable yet to be associated with an offshore wind farm. When completed during 2016, the 47 km cable will extend from the coastal village of Weybourne in North Norfolk to Necton, near the market town of Swaffham in the Breckland district of Norfolk.

The first task in a rolling programme of work, which started at the northern end of the cable route in North Norfolk, was the erection of demarcation fencing to create a 20 metre wide 'corridor' across land belonging to 44 landowners. This was the first visible sign of onshore activity, and was followed by the installation of Great Crested Newt fencing to mitigate the risk of this protected species being harmed by the construction and installation work

Implementation of a pre-construction drainage scheme was followed by the careful removal and safe storage of the highly important agricultural top soil from the cable corridor. Only then could the Duct Installation Team get to work, binding and stringing out the ducts,

which will eventually house the electricity cables, along the cable corridor.

The arrival of two large state-of-the-art Marais mechanical trenchers in the cable corridor signalled the next phase of the installation process, and currently the



One of the mechanical trenchers in action

trenching team has successfully installed 40km of ducting at a depth of 1.4 metres.

The trenchers, which are followed by Marker Tile and Back Fill Teams, are now progressing south along the cable corridor at a rate of between 500 to 700 metres per day. Horizontal Directional Drills (HDD) are being undertaken in parallel with the duct laying works, and joint bay construction commences once the ducts have been installed.

The first cable pulls into the installed ducting are currently taking place, and the next issue of this newsletter will contain an update report 📕

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Contract obligation milestone reached

In reaching its one year contract requirements, Dudgeon Offshore Wind Farm has demonstrated that the project qualifies for its investment contract.

The approval for Dudgeon in meeting its milestone requirements was confirmed by the Low Carbon Contracts Company (LCCC), the designated independent Counterparty to CfDs, after Dudgeon issued the milestone requirement notice in early May 2015.

"This is very good news for the project, and it confirms that we're progressing according to plan in the development of the wind farm,"said Statoil's Vice President and Chairman of the Dudgeon Board of Directors, Halfdan Brustad.

"The contractual milestone has been reached through good work and collaboration by the project team with the government's delivery body, LCCC. The process and the dialogue towards approval have been excellent", he added. Dudgeon Offshore Wind Farm was awarded an Investment Contract under DECC's Final Investment Decision (FID) Enabling for Renewables process in April 2014. The project is one of the first investments from the UK Electricity Market Reforms (EMR), designed to build the world's first low carbon electricity market. The CfD contract and a known Strike Price provide a sustainable and long-term basis for the significant investment needed to construct the Dudgeon Offshore

Substation construction commences at Necton

Siemens Transmission and Distribution Limited, which is constructing the Dudgeon onshore substation just outside the village of Necton in Norfolk, mobilised on site during March 2015, and a group of Dudgeon and Siemens representatives were on hand to witness the ground being broken on 30th April 2015.

Construction and equipment testing and commissioning will continue on the site until November 2016, during which time the National Grid will build its own adjoining substation.

Working with Necton Village Forum, Dudgeon Offshore Wind Farm has established a Focus Group with representatives from residents in Necton, and this Group has now given valuable input to the landscaping plan for the substation site



SIEMENS

Breaking ground at the Necton sub station site





Construction of the substation topside Image courtesy of Sembmarine SLP Limited

Sembmarine SLP based in Lowestoft has been awarded the engineering, procurement and construction (EPC) contract for the Dudgeon Offshore Wind Farm substation platform by Siemens Transmission and Distribution Limited.

Earlier this year the company celebrated the project's first steel cutting, marking the move from detailed design phase to the construction programme.

The 1800 tonne substation and 1500 tonne jacket structure will be centrally located within the site of the Dudgeon Offshore Wind Farm, some 20 miles off the coast of Cromer in North Norfolk

Work commences building Dudgeon O&M base in Great Yarmouth

East Anglia construction company R G Carter has begun building Dudgeon Offshore Wind Farm's onshore operations and maintenance (O&M) base at Berth 9 located next to the River Yare within the Great Yarmouth port.

The company is converting an existing warehouse into Dudgeon's permanent office and logistics facility. Once finished, during the second quarter of 2016, the building will include a two story facility, integrated into the existing framework of the warehouse, providing sufficient office space for Dudgeon's onshore workforce as well as a dedicated 24 hour a day control centre to monitor and manage the windfarm's production. The remainder of the warehouse will be utilised as a logistical store for keeping spare parts at the base ready for when they are needed to be transported offshore to the wind farm. Externally a new car park and security fence will also be established. Once the wind farm is in service the new base will accommodate all of the permanent staff working onshore with the day to day responsibility for managing the wind farm.

Rune Rønvik, the Dudgeon Operations Manager, said: "We were pleased to award this important contract to RG Carter and look forward to further establishing ourselves as an integral part of the local business community".



Architect's impression of the Dudgeon O&M base

Working with fishermen

The negotiations between Dudgeon Offshore Wind and the fishermen's associations and individual fishermen who fish in the waters where the Dudgeon Offshore Wind Farm is to be constructed have been successfully completed.

This enabled the fishermen to remove all their fishing gear from the wind farm site prior to the start of seabed rock placement at the location of a number of wind turbine foundations early in July 2015.

Kari Hege Mørk, the Stakeholder Manager for the Dudgeon Offshore Wind Farm said: "The wind farm site and the offshore cable corridor will be exclusion zones for various periods of time during construction until late 2017. The agreements we have reached will mean that fishermen whose livelihoods are affected by these periods of exclusion will receive disruption payments to compensate them for loss of income."

She added: "I would like to thank everybody involved for their time, patience and understanding during these negotiations."

Dudgeon recruits for O&M organisation

During April and May 2015 Dudgeon Offshore Wind ran its first recruitment campaign, seeking applications for seven positions within its Operations and Maintenance organisation which is to be established in Great Yarmouth in Norfolk.

The individuals appointed will join the five Statoil staff who have worked on the Dudgeon project since before the investment decision. These five individuals had been based in London, Oslo and Stavanger, but in October 2015 they moved to Great Yarmouth.

A further campaign has now commenced to recruit three further individuals:

- Electrical Engineer
- Mechanical Engineer
- Maintenance Planning Engineer

Further information about these positions can be obtained by visiting the Dudgeon Offshore Wind Farm website at www.dudgeonoffshorewind.co.uk



Fishing boats on Sheringham slipway

The Dudgeon Team:

An interview with Christopher Nunn **Consents Manager**

Since construction of the Dudgeon Offshore Wind Farm commenced, all the planning and consenting activities have been undertaken by Chris Nunn, the Consents Manager for the Dudgeon project.

Chris has worked for Statkraft for three years, and before joining the Dudgeon project team worked in the Forewind consortium on the Dogger Bank Offshore Wind Farm project.

He has broad experience of the renewables industry, having worked as an onshore wind farm developer earlier in his career. In this role he worked on onshore wind projects across England from the point of conception, all the way through to construction. He found his way into the renewables sector through a background in planning, and formerly held the role of Senior Planning Officer at a local authority where he was responsible for determining a wide range of planning applications.

The role of Dudgeon Consents Manager is core to the successful and responsible delivery of the project. When consent is received for a large project such as Dudgeon, it is accompanied by a large number of conditions designed to safeguard people, places and the environment. In his role Chris is on the front line ensuring that all project activities comply with the consent conditions. His work began in the pre-construction phase and will continue through construction and the post construction phases. Part of his role involves working closely with suppliers who have won contracts on the project to understand their procedures



Chris Nunn, Consents Manager

and ensure they are in line with the conditions of the consent. He also has responsibility for ensuring that all the agreed environmental mitigation actions are implemented. This requires commissioning and managing onshore and offshore environmental surveys, and then producing reports that demonstrate how the project is fulfilling its consent obligations.

When asked to comment on what he finds to be the most satisfying elements of his wide ranging role. Chris said:

"Helping to deliver a major infrastructure project which will make a significant contribution to the UK's future electricity supply needs is certainly very satisfying. It is also very important to me that the Dudgeon Offshore Wind Farm is delivered responsibly, with careful management of any environmental impact that may be created by the project.

"I also enjoy the variety of my working day and the people with whom I work. I take responsibility for engagement with authorities and advisers relevant to the project's various consents, and this brings me into contact with some highly knowledgeable and very interesting individuals."

He added: "And it means I often get to work in the beautiful surroundings of Norfolk."

Dudgeon and the Community



Weybourne on the North Norfolk coast

Although the formalities to establish the Dudgeon Community Support Fund are still to be finalised, requests for grants for community projects in the villages along the onshore cable route from Weybourne to Necton can be submitted for consideration. Details of how and when to make such submissions will shortly be supplied to the Parish Councils along the cable route.

Carillion plc, the contractor which is installing the Dudgeon underground onshore electricity cables, is also willing to support community projects along the cable route. This support involves providing members of its team to work as volunteers, and the range of projects which could benefit from these skilled volunteers could include work such as village pond clearance, track and pathway maintenance or helping to create community leisure and play areas. Parish Councils will shortly receive information explaining how to request volunteer support from Carillion plc

About the Owners

Dudgeon Offshore Wind Farm is owned by two Norwegian companies, Statoil and Statkraft, and Masdar of Abu Dhabi.

Statoil is an international energy company headquartered in Norway, with 21,000 employees and operations in 36 countries. Building on 40 years of experience from oil and gas production, the company is committed to accommodating the world's energy needs responsibly, applying technology and creating innovative business solutions.

Masdar is Abu Dhabi's renewable energy company advancing the development, commercialisation and deployment of clean energy technologies and solutions. The company serves as a link between today's fossil fuel economy and the energy economy of the future.

Statkraft is a leading company in hydropower internationally and Europe's largest generator of renewable energy. The Group produces hydropower, wind power, gas-fired power and district heating and is a global player in energy market operations. Statkraft has 3600 employees in more than 20 countries 📕

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