

SCROBY SANDS

CASESTORY

CAN DO. WILL DO.

OFFSHORE WIND



1, 2, 3 GO!

Scroby Sands launches new maintenance strategy with three gearbox exchanges

At the Scroby Sands wind farm off the east coast of England, Keith Cooke and his colleagues were faced with a new challenge. For the first time, they needed to arrange the servicing of their wind turbines without the assistance of the turbine manufacturer. This was part of a strategic decision to internalise the operations and maintenance of turbines.

The gearboxes on three wind turbines were coming to the end of their working lives. The turbine warranty had recently expired and a solution needed to be found for replacing the gearboxes.

Keith Cooke, Operations Manager at Scroby Sands, explains the need for the gearbox replacement: "We had followed a regular maintenance schedule at Scroby Sands involving visual inspections, oil sample collection and condition-based monitoring. The combination of these three maintenance methods revealed that the gearboxes on three turbines needed changing. But it wasn't really a surprise as we had expected the gearboxes to last for about 7-8 years, and this corresponded with the age of the turbines."

Such is the rapid development of the offshore wind industry, even a highly experienced renewables professional such as Keith can find himself faced with new challenges. In his more than 27 years in energy generation, Keith has worked with renewables since 2005, when he joined Powergen, later to be acquired by E.ON. Keith worked for several years on E.ON onshore wind farms, before becoming



“The team at ZITON was very helpful and certainly demonstrated their knowhow.”

operations manager at Scroby Sands in 2011. Since then, he has been part of Scroby Sands’ development into one of Europe’s most well-established offshore wind farms.

“E.ON has made a strategic decision to move from relying on the turbine manufacturer for maintenance of its turbines to us taking on maintenance ourselves as turbine warranties expire. We think this is a first for the industry,” says Keith Cooke. “As this was our first time for replacing a major component, there were naturally some unknown factors. It was important that things were done right and we knew we needed assistance from a good, reliable jack-up partner.”

OPERATIONS AND MAINTENANCE PARTNERSHIP

Selecting an operations and maintenance partner involved a strict evaluation process, which went far beyond just looking for a suitable jack-up vessel. A formal pre-qualification of suppliers had taken place earlier.

At this time, ZITON had been approved as a supplier to E.ON, partly thanks to previous work performed by its vessel J/U WIND. ZITON specialises in providing jack-up vessels and services for projects such as major component replacements.

Keith Cooke talks about the process of evaluating suppliers for exchanging major wind turbine components: “Of course, we looked at the suitability of different jack-up vessels to access our turbines, as not everyone can supply the right type of vessel. Scroby Sands is built on sand banks in a fairly shallow site about 2 km offshore. It is susceptible to high wind speeds and as it is very tidal, depths can reach up to 5m, which is the limit of a jack-up vessel.



“ZITON did everything they could in the circumstances and I can’t point to anything they could have done better...”

“But we look at the suitability of the company as a whole, too. We consider the vessel provider’s past performance, safety record, price and, importantly, knowhow. “The actual selection process for this gearbox replacement project was quick. We looked at different suppliers and decided for this job on ZITON, because they met all our requirements for the project.”

CRITICAL FACTORS

Speed is always an important factor in operations and maintenance. But in this case, it wasn’t the only success criteria.

“We wanted to make sure things were done correctly and that we had the opportunity to learn during the process,” says Keith Cooke, adding, “We need to know more about main component replacement as it is part of our self-maintenance strategy.”

“The team at ZITON was very helpful in this respect and certainly demonstrated their knowhow. During the project, our team could really feel the experience of the ZITON team. They had a great attitude and made us feel welcome on board the vessel. They explained procedures when necessary and coached us through the entire process,” says Keith.

Weather and sea conditions always have the potential to impact access to the turbine. Despite a 32-hour stand down, the replacement project took only five days and five hours. The project involved a straight swap-out of the old gearboxes, but there was also time to complete some maintenance work in the tower.

POSITIVE IMPROVEMENTS FOR INCREASED COST EFFICIENCIES

Thorsten Jalk, CEO of ZITON sees this project as a natural step in the evolution of wind farms: “As we see turbines coming out of their warranty periods, wind farm owners are having to consider their operations and maintenance strategies carefully. We were pleased to be able to demonstrate through our work at Scroby Sands that with the right planning and cooperation, replacing major components can be performed with minimal disruption to the wind farm’s operations.”



Keith Cooke believes that establishing partnerships and framework agreements would be beneficial due to the general need for the industry to increase efficiencies and drive down costs of electricity generation:

“Vessel availability is a limiting factor for operations and maintenance, and another is time – both the time it takes to get a contract in place and the time to mobilisation. I think we would all benefit if different parties could work closer together by having agreements in place to ensure assistance is available when needed. Sharing resources would be useful, too. For example, if a vessel is going to be nearby on another project, we could use that vessel for regular maintenance tasks while it is in the vicinity.”

Keith Cooke and Thorsten Jalk agree that the ability of logistics services to be more efficient and competitive is a key component in creating more cost efficiency in the offshore wind industry in general.

Concluding his thoughts on the gearbox replacement project, Keith Cooke believes it was an excellent performance by his site team and ZITON.

“I’m very pleased with the outcome. ZITON did everything they could in the circumstances and I can’t point to anything they could have done better,” he reflects. “It was a great experience for our team, largely thanks to ZITON’s ‘family’ on board WIND. And I think we are in a good position to make positive improvements to our internal systems and reduce downtime even more when we face similar situations in the future.”



ZITON A/S
Bygholm Søpark 21 E
DK-8700 Horsens Denmark

www.ziton.eu

Phone +45 87 44 44 00
sales@ziton.eu

For more information call +45 87 44 44 00 or email sales@ziton.eu

Copyright © 2016 ZITON A/S. All rights reserved. All other trademarks are the property of their respective owners. 11/16 v02