Estlink Case Study

Autumn/Winter 2006

Helping develop the Nordic and Baltic energy markets

In 2004, AS Nordic Energy Link was established with the task to complete the submarine power cable and connect the power grids off Finland and Estonia. The company awarded the Estlink cable construction to ABB, a leader in power and automation technologies and on 29 April 2005, the Estlink project was launched. The ABB cable would provide a reliable and secure power supply between Helsinki, Finland and Talin, Estonia.

Selecting the right installation team for the job

ABB knew that the installation of 150 kilometers of cable, weighing up to 4000 tonnes, was a mission critical part of the Estlink project and therefore needed total peace of mind that it would be carried out to the highest professional standards, and also to time the budget.

After the competitive tender process, Global Marine Systems Limited was selected on the basis of its experience in the power installation market and its leading edge installation and burial technology. Global Marine's other recent work in this sector included installing cables to new gas production platforms off the coast of Papua, Bintuni Bay, for Saipem SpA and also installing cables for Talisman Energy, as part of the Beatrice Windfarm Demonstrator project off the east coast of Scotland.

Global Marine's largest Baltic Installation project

The first stage of the project for Global Marine began in Scotland during August 2006, when its vessel, CS Sovereign had two seventeen metre cable tanks and loading arms installed to accommodate the size of the Estlink cables. The two 77km high voltage cables were then loaded onto the CS Sovereign in Sweden, where they were then tested during offshore trials prior to sailing for Estonia.

Stage two involved one end of the cables being floated ashore and connected to the Estonian mainland in Talin. The installation process then truly began in the Baltic Sea. After negotiating the narrow Finnish archipelago, Sovereign arrived in Finland The burial depth requirements for the project were quite precise, being not greater than one metre in the main and not greater than 0.6m in areas where the soils have high thermal conductivity.

Throughout the project "touchdown" monitoring, using the underwater inspection ROV Super Mohawk, was used to monitor the touch down position of the cable ensuring the avoidance of seafloor obstacles. Upon reaching Helsinki, Finland the other ends of the Estlink cable were connected and testing then began.

Project benefits

Estlink provides the vital infrastructure for a more efficient and competitive energy market between the Baltics and Nordic region by supplying the Nordic electricity market with electricity generated in the Baltics. The ABB cable will ensure a reliable and secure supply of electricity which, in the longer term, will also help enable further energy suppliers to enter the Baltic and Nordic energy markets.

The Verdict

Arne Abrahamsson at ABB commented **"Global Marine has extensive experience in the power industry, ranging from oil and gas, electricity through to wind farm installations and this knowledge coupled with its innovative technology, made us highly confident that our mission critical installation was in safe hands."**

Ian Gaitch, responsible for Power and Renewable Energy projects at Global Marine said, "Estlink is a hugely exciting project for the Baltic region and further proof of Global Marine's expertise in large scale and complex power cable installation. We are delighted to be a trusted partner of choice to ABB and look forward to further market opportunities in the Baltic region."

Resources

Ship: CS Sovereign, one of the most advanced off-shore engineering ships of its kind in the world, is capable of handling the wide variety of Subsea tasks required by such diverse industries as Telecommunications, Oil and Gas, Renewable Energy and Deep Sea Research.

Submersibles: Super Mohawk, a light work class vehicle equipped to carry out the tasks associated with light intervention and inspection works in the Oil and Gas arena and Atlas is a state of the art, ultra heavy work class ROV designed for intervention, trenching, umbilical and power cable maintenance and post lay and inspection roles.

Ship-side team: This project was led by Captain Simon Hibberd in his role as Offshore Customer Liaison Manager responsible for maintaining the day to day offshore relationship with the Customer ABB. Since joining the company in 1989, he was served as Ships' master and Cableship Commander with Global Marine since October 1993. Simon has extensive experience of cable work with a wide-ranging record of successful cable installation, cable maintenance, cable survey and remedial cable burial operations achieved.

Shore-side team: The Global Marine Commercial Directorate worked seamlessly on this project. The assignment was initially handled by the Sales Operations Team, specifically Bid Manager Adrian Chubb, John Lawton the Contracts Manager, Andy Readyhough and Phil Chenford (from Marine Operations). Once the bid was successful, the project was handed over to the Project Delivery Department. The Project Manager was Chris Berridge. Chris has worked on a number of high profile Wind Farm installations, including the Danish wind farm Horns Rev and Kentish Flats and UK's wind farm located off the coast of Kent and the Beatrice Wind Farm Demonstrator Project.

For more information on Global Marine's capabilities please contact Ian Gaitch, Sales Director for Global Marine Systems, Energy, ian.gaitch@globalmarinesystems.com

For further information on Global Marine Systems, Energy projects, please visit our website: globalmarinesystemsenergy.com