



Project Name (1): Barrow Offshore Wind Farm		Country: United Kingdom
Project Location Within Country: Eastern Irish Sea near Barrow-in-Furness south west of Walney Island		Professional Staff Provided: No. of Staff: 1
Name of Client: DONG Energy A/S		No. of Person-Months: 14
Start Date: 2005-04-01	Completion Date: 2006-06-30	Approx. Value of Services:
Name of Associated Firm: None		No. of Person-Months of Professional Staff Provided by Associated Firms::
Senior Staff Involved and Functions Performed: Offshore Installation Manager		
Detailed Narrative Description of Project & Services: The Barrow Offshore Wind Farm is equally owned by DONG Energy A/S and Centrica Ltd. The wind farm comprise of 30 Wind Turbine Generators with a total rated power of 90 MW (30 @ 3 MW), 30 WTG Foundations of the Monopile type, 30 Inter Turbine Seacables, 1 Offshore High Voltage Substation (OHVS), 1 Monopile Foundation for the OHVS, 1 Export Seacable, 1 Export Onshore Cable and 1 Onshore High Voltage Substation.		
Technical Data: <ul style="list-style-type: none"> • Start Construction: May 2005 • Finish Construction: July 2006 • 30 Vestas V90 Wind Turbine Generators generating 3 MW each • Water Depth: 20 m (MSL) • Tidal Range: 9 m • Distance to shore: 8 km • Distance between WTG: 500 m • Surface area: 10 km² • Annual Power Production: 305 GWh • Soil conditions: Sand and hard Clay • WTG Foundation Types: Monopiles weighing 450 MT and Transition Pieces weighing 115 MT with external J-tubes and no scour protection • Offshore High Voltage Substation (OHVS): Grillage structure (pancake) module weighing 480 MT equipped with one 100 (approx) MVA transformer (33kV/132kV) and other M&E equipment • OHVS Foundation: Monopile with special Transition Piece with four supports and external J-tubes and no scour protection 		



Project Name (1): Barrow Offshore Wind Farm	Country: United Kingdom
<ul style="list-style-type: none">• Installation of WTG Foundations: Driving with a hydraulic hammer (1,200 kJ) installation of Transition Piece and grouting. 9 out of 31 Monopiles were drilled due to hard soil (bucket drill from Bauer)• Inter Turbine Seacables installed by special ROV using jetting and Export Seacable installed by ploughing	
Services provided: <ol style="list-style-type: none">1. Setting-up of offshore inspection teams for monitoring the offshore installation work: Foundation Installation, Seacable Installation, WTG Installation and Installation of OHVS2. Preparation of Quality Control Procedures3. Preparation and Management of the Construction Health & Safety Procedures according to CDM Regulations4. Chair regular Site meetings with the Installation Contractors5. Leading Construction Risk Assessment Forums6. Supervision of all offshore installation, hook-up and commissioning activities7. Monitor technical quality, non-conformances and progress of offshore related activities8. Expedite Site Queries9. Coordinate Marine Warranty Surveyor activities related to the offshore installation activities10. Claim Management related to Offshore Installation Works	