



<b>Project Name (3):</b> Horns Rev 2 Offshore Wind park		<b>Country:</b> Denmark
<b>Project Location Within Country:</b> North Sea west of Esbjerg		<b>Professional Staff Provided:</b>  <b>No. of Staff: 1</b>
<b>Name of Client:</b> DONG Energy A/S		<b>No. of Person-Months:</b>  18
<b>Start Date:</b> 2007-07-01	<b>Completion Date:</b> 2008-12-31	<b>Approx. Value of Services:</b>
<b>Name of Associated Firm:</b> None		<b>No. of Person-Months of Professional Staff Provided by Associated Firms::</b>
<b>Senior Staff Involved and Functions Performed:</b> WTG Installation Manager		
<b>Detailed Narrative Description of Project &amp; Services:</b>  The Horns Rev 2 Offshore Wind Farm is owned by DONG Energy A/S and comprise of 92 Wind Turbine Generators with a total rated power of 209 MW (92 @ 2.3 MW), 92 WTG Foundations of the Monopile type, 92 Inter Turbine Seacables, 1 Offshore Living Quarter (LQ), 1 Monopile foundation for the LQ, 1 Offshore High Voltage Substation (OHVS), 1 Jacket Structure for the OHVS, 1 Export Seacable, 1 Export Onshore Cable.		
<b>Technical Data:</b> <ul style="list-style-type: none"> <li>• Start Pre-Contracting Phase: August 2005</li> <li>• Start Construction: April 2008</li> <li>• Finish Construction: December 2009</li> <li>• 92 Siemens 2.3 MW Mk II variable speed 93 m rotor Wind Turbine Generators</li> <li>• Water Depth: 18 m</li> <li>• Distance to shore: 30 km</li> <li>• Distance between WTG: 550 m</li> <li>• Surface area: 35 km<sup>2</sup></li> <li>• Annual Power Production: 835 GWh</li> <li>• Tidal range: 2 m</li> <li>• Soil conditions: Sand</li> <li>• WTG Foundation Types: Monopiles weighing 200 MT and Transition Pieces weighing 130 MT with internal J-tubes including scour protection</li> <li>• Offshore High Voltage Substation (OHVS): Space frame module weighing 1,300 MT equipped with one 230 (approx) MVA transformer (34kV/150kV) and other M&amp;E equipment</li> <li>• OHVS Foundation: Jacket foundation with a lift weight of 1,000 MT and leg piles</li> <li>• Installation of WTG Foundations: Placing of Filter Layer, driving with an hydraulic hammer, Transition Piece installation and placing of cover scour protection layer</li> </ul>		



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<ul style="list-style-type: none"><li>• Inter Turbine Seacables installed by jetting and Export Seacable installed by ploughing</li></ul>	
<b>Services provided:</b> <ol style="list-style-type: none"><li>1. Preparation of Enquire Documents for the WTG Installation Works</li><li>2. Technical and Financial Evaluation of the received Tenders for the WTG Installation Works</li><li>3. Contract Negotiation with the preferred Tenderers of the WTG Installation Works</li><li>4. Closing and writing parts of the entered WTG Installation Works Contract based on a bespoke contract form</li><li>5. Interface Management between the WTG Installation Contractor, the WTG Supply Contractor and Inter Array Cable Termination Contractor</li><li>6. Planning of WTG Installation Quality Control Plans of the Employer</li><li>7. Planning of engagement of QC Inspectors for WTG Installation</li><li>8. Provision special advice to the WTG Foundation Project Manager.</li></ol>	