

Arc Energy Resources Creates a 'Full-Supply' Riser for Aquaterra Energy North Sea Customer

Weld overlay cladding specialist Arc Energy Resources has successfully completed a contract for supply of two riser joints for Aquaterra Energy, the provider of world-class and award-winning offshore solutions.

The components are part of two low pressure risers for an oil platform. The finished risers were destined for a set of twenty wells being drilled in the North Sea off the coast of Norway. It is a brand new development for a low pressure section of pipes to deal with any drill fluids and shallow gas that they may encounter while drilling the first top-hole section of a well.

Commenting for Arc Energy Resources, director Andrew Robinson says: "This project played well to our core strengths, a full supply contract for which we secured the material for both components (a flange and pipe for each), applied the weld overlay cladding, welded the flanges to the pipes, organised the pressure testing, completed radiographic testing requirements and arranged final coating of both items all within a very tight delivery schedule."

The project is a DNV class rig, designed to the DNV0SE101 code and was signed off by Det Norske Veritas as suitably manufactured and designed for the task. Aquaterra Energy Project Engineer Matt Hugo comments: "DNV is one of the oil & gas industry's largest verification bodies, which confirms calculations that pipe wall thickness and flanges are sufficient for the pressure. For this project they also undertook a review of the overall design of this section of pipe."

The component acts as a conduit for drilling fluids and equipment during the top hole section and ensures that in the event of gas passing up through the well it can be contained and routed to the rig diverter where it can be vented to atmosphere.

The risers need to have a sealing ring groove in the end of the flange, which is inlaid with an extremely hard, corrosion resistant Inconel 625 alloy.

As Aquaterra Energy has previously used Arc Energy Resources for specialist welding requirements, it approached the company again with a view to provide full supply of materials, carry out all required welding, inlaying of the flange, testing and coating.

Arc Energy Resources sourced the machined flanges and clad with Inconel 625, before completing the welding requirements for the project using Submerged Arc Welding – a process that provides a high quality finish.

Once welded, the parts were pressure tested. Domed end caps were welded onto the straight pipe lengths and then both joints were sealed together through adjoining flange faces to form a complete vessel. For the first stage of pressure testing, the riser was filled with water to a test pressure of 750psi, which provided a safe 500psi working pressure. After being held at this pressure for 5 minutes it was pressured down and pumped back up, then held for a further 15 minutes before being drained-down. When the pressure test was complete, radiographic testing was carried out to confirm that the welds hadn't cracked or been damaged. The end caps were removed with pipe free ends being finish machined as required. The parts were then sent to be coated.

Says Matt Hugo: "We were at Arc Energy Resources' site when the testing was carried out and were very impressed with the way they conducted the demanding procedures, whilst maintaining their high levels of health & safety."

The final checks for the unit were carried out by a team that included an inspector from Aquaterra Energy's customer and their own inspector accompanied by an inspector from DNV. Following the riser's final check the unit was ready for use. It was delivered offshore and installed in position on-time where it has since operated very successfully.

Summing up, Matt Hugo says: "This project was quite a straightforward concept. But, as with many straightforward concepts, there is potential for things to go wrong. Fortunately, Arc Energy Resources' knowledge and experience ensured that nothing did, and they kept us up-to-date every step of the way and the whole project went very smoothly. Arc Energy Resources did a sterling job, delivered an excellent project, with exceptional performance throughout the manufacture of the unit. They did everything we have asked of them."

Ends

Notes:

Aquaterra Energy has a reputation for delivering innovative, robust and reliable engineering solutions to challenging drilling rig or platform requirements. In-house teams cover the complete project scope including Design, Procurement, and Installation. The company's extensive experience includes the North Sea, Asia-Pacific, West Africa, Europe and USA and its international success was recognised in April 2009 with a Queen's Award for International Trade.y.

For further information contact:

Alan Robinson, Arc Energy Resources

Unit 12 Eastington Industrial Estate, Meadow Mill, Eastington, Gloucestershire GL10 3RZ

Tel: +44 (0)1453 823523 Fax: +44 (0)1453 823623

E-mail: sales@arcenergy.co.uk Web: www.arcenergy.co.uk