Amarinth's speedy response for pump spares keeps the oil flowing for DONG Energy

case study

Problems sourcing pump spares

DONG Energy had been using Girdlestone pumps for many years on its offshore oil platforms in the Siri field, which is located in the North Sea, to pump produced water. The pumps had proven reliable and were well liked, but since the closure of the Girdlestone operation the after market support and delivery of spare parts from the existing channel was proving unsatisfactory and sporadic at best.

One of the pumps then failed, leaving DONG Energy's operating on the standby pump and having to perform unplanned maintenance. There was now a serious risk of the rig being shutdown should the standby pump fail and so time was of the essence to get the original pump back into service.

The problem was identified as the shaft, but the existing supplier of OEM parts didn't seem interested in providing a replacement quickly. One alternative was to ask a local machining shop to make a replica.

The hidden costs in using replicas

Whilst having a replica machined is often attractive from an initial cost point of view, there are usually hidden on-costs. A local machinist is unlikely to know the exact grade of material used by the original manufacturer nor the tolerances that the component was designed to.

The consequences of any variance will not be noticeable in the short-term, but the excessive vibration that can be caused by incorrect tolerances will lead to increased noise and the premature failure of other costly components, such as the mechanical seal.

Fully interchangeable components

Turoteknikk, Amarinth's agent in the region, found out about the dilemma and suggested that Amarinth may be able to assist. Amarinth had already re-engineered many Girdlestone components to support other companies that were experiencing similar supply issues to DONG Energy. Amarinth also had significant experience of the offshore market.

Speed is of the essence

Although happy to have found a company to provide a replacement component, the risk to DONG Energy of having the pump out of action for the five weeks initially proposed was unacceptable and DONG Energy asked Amarinth if it could be done in just two weeks. Amarinth thought hard about how they could shrink the lead time - the solution involved:

- identifying a suitable supplier of the correct grade of material,
- hiring a courier to pick up the material from the stockist and deliver it to the machinist, and
- shipping the new component directly to the rig.

Everything came together flawlessly and new component was on the rig within 10 days from the initial enquiry, a 60% reduction in the required lead time, whilst DONG Energy were kept fully informed of progress throughout.

Assured supply of spares

The replacement shaft, which was fully ATEX certified, performed faultlessly. DONG Energy has since placed orders with Amarinth for other spares. On the strength of Amarinth's attention to quality and short lead times, Dong Energy has decided to replace three other worn out Girdlestone pumps with dimensionally interchangeable Amarinth A series API 610 OH2 pumps.

Dong Energy

DONG Energy A/S was founded in 2006 as the result of a merger involving six Danish energy companies. Before the merger, the six companies that make up DONG Energy were active in different links of the energy supply chain – from exploration for and production of oil and natural gas and the generation of electricity at power stations and renewable energy facilities to the distribution of electricity and gas – all the way up to contacts with end-users through marketing, sales and energy consultancy.

Since 1984, DONG Energy has explored for and produced oil and natural gas in the North Sea and has owned and operated the natural-gas distribution grids in Southern Jutland, West Zealand and South Zealand.

"After discussing pumps for a new project with Amarinth we decided to give them the opportunity to supply spare parts for some of our existing Girdlestone pumps. We were very impressed with the speed of response and the quality of the components. Amarinth were very attentive throughout the process of identifying and ordering the components."

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