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Amarinth reconditions pumps on the Baku-Tbilisi-Ceyhan oil pipeline to safeguard environmentally sensitive region

Amarinth, a leading company specialising in the design, application and manufacture of centrifugal pumps and associated equipment to the Oil & Gas, petrochemical, chemical, industrial and renewable energy markets, has completed the reconditioning of the pumps stationed on the Baku-Tbilisi-Ceyhan pipeline which safeguard against pollution in a region of Georgia that exports natural spring water.

The I,768 kilometres Baku-Tbilisi-Ceyhan pipeline is the second longest in the world and carries oil from Baku in Azerbaijan to Ceyhan on Turkey's Mediterranean coast. Commissioned in 2006, the pipeline delivers one million barrels of crude per day and crosses environmentally sensitive unspoiled regions including in Georgia where natural spring water is produced. To prevent the possibility of pollution should the pipeline stop pumping oil, sumps had been constructed in the base of the valley and Amarinth had previously installed API 610 VS4 vertical pumps in those sumps so that if the pipeline had to be drained the sump would contain the pipe volume of oil which could then be pumped out and disposed of in an environmentally sensitive manner.

The pumps have not had any reason to operate since commissioning other than for maintenance. During a scheduled maintenance activity however, one of the pumps was run in a dry sump. The pump ingested debris causing the impeller to seize and resulting in damage to the mechanical seal and line bearings.

BP, the pipeline operator, quickly contacted Amarinth in order to assess the damage to the pump, review what spares were required and at the same time look at the other sump pumps to see if they required any further maintenance work. Given that these pumps safeguard against any environmental impact from pollution, there was a lot of pressure from the local government to bring the pumps back on-line quickly and Amarinth was given just three weeks to complete any work and re-commission the pumps.

Amarinth reacted immediately drawing together a team of technical and mechanical people from its onshore and offshore skilled engineering staff. On arriving on-site they lifted the pump out but on strip down found that the damage was much worse than anticipated requiring a number of bespoke parts. These were ordered, manufactured in the UK and immediately shipped to Georgia. After fitting the parts and replacing the pump in the tank however, further issues were identified with the impeller, again requiring more parts to be sourced and shipped.

Despite the extent of the damage, with its agile operations and ability to place skilled engineers anywhere in the world, along with access to a highly responsive supply chain, Amarinth was able to rebuild and re-commission the damaged pump and carry out checks on the other pumps all within the three week deadline.

Following the incident, Amarinth proposed changes to the operator's maintenance schedule, suggesting glycol, which would remain liquid in the extreme sub-zero winter, was kept within the sumps so that the pumps could be run every six months without any danger of dry running. Amarinth also drew up a spares list along with the correct storage in the sub-zero temperatures which would ensure that any potential future issues could be addressed swiftly.

Oliver Brigginshaw, Managing Director of Amarinth, commented: "We were very pleased to be able to assist BP with the repair and re-commissioning of these strategically important pumps on the Baku-Tbilisi-Ceyhan pipeline. We have built up a team of highly qualified and skilled engineers and support staff who can be rapidly deployed offshore and on-shore anywhere in the world to commission new pumps and assess, repair or replace existing ones. Along with our responsive supply chain and technical partners, who are positioned in major geographical regions, this gives us the ability to react quickly and efficiently to meet our customers' needs."

OPTIONAL PANEL or BOX ITEMS



Engineers lifting an Amarinth API 610 VS4 pump from a sump station on the Baku-Tbilisi-Ceyhan oil pipeline

NOTES TO EDITORS:

Founded in 2002, Amarinth has harnessed the skills, creativity and passion of people who have worked in the pump industry for many years. Amarinth delivers world-leading expertise in the design, application and manufacture of centrifugal pumps and associated equipment to ISO, ANSI & API standards, primarily for the industrial, chemical & petrochemical markets. Their portfolio includes:

- **Pumps**: Horizontal and vertical API 610 pumps, chemical and industrial pumps, many of which are interchangeable with the Girdlestone pump ranges, eliminating the need for expensive modifications when replacements are required.
- Pressure Vessels: Protect System Plan 52 and 53A and 53B sealant systems
 with inbuilt condition monitoring for pumps and mixers that are suitable for
 Safe area up to Zone 1.
- **Spares & Service**: High quality, fast lead-time re-engineered spare parts to improve performance and extend pump life, including many which are directly interchangeable with the Girdlestone pump ranges.
- Packages & Modules: Condensate Recovery Units manufactured for Spirax Sarco incorporating the innovative Ci-Nergy intelligent variable speed control system, plus bespoke packages & skids built to order.
- Business Systems: state-of-the-art e-commerce technologies that deliver 24/7 support enabling customers to select pumps and place orders on-line and then track every stage of manufacture through to delivery, any time, anywhere in the world.

The company operates globally from its base in Rendlesham Suffolk, United Kingdom and has a customer base of world-leading companies, including BP, Shell, ExxonMobil, GlaxoSmithKline, Pfizer, Spirax Sarco, Diageo, AMEC, Fluor and Halliburton.

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