



FOR IMMEDIATE RELEASE – 11 February 2025

Amarinth enhances ADNOC Gas operations with remote bearing temperature monitoring and flush system

Amarinth, a world-leading, net-zero designer and manufacturer of low lifecycle cost centrifugal pumps and associated equipment, primarily for the offshore and onshore oil & gas industries; nuclear and renewable energy generation; defence; desalination; process and industrial markets, has successfully delivered a pump modification project for ADNOC Gas, a major integrated gas processing company based in Abu Dhabi, UAE.

ADNOC Gas, a subsidiary of ADNOC, manages over 3,000 km of pipeline networks and 26 processing trains. The company supplies around 60% of the UAE's natural gas requirements and serves customers in more than 20 countries.

The project involved upgrading four API 610 VS4 vertical pumps with remote bearing temperature monitoring and flush systems. These pumps, originally supplied to ADNOC Gas by Amarith over a decade ago, have been operating reliably. However, recent changes to process conditions introduced a heavier particulate loading in the fluid, which posed a challenge to the line shaft bearings.

Amarinth's innovative solution addressed the risk of clogging and lubrication starvation of the bearings that can lead to overheating and pump failure. The modification integrated advanced Resistance Temperature Detectors (RTDs) to monitor bearing temperatures in real time. To endure the highly corrosive effects of hydrogen sulphide (H₂S) in the process fluid, the probes were encased in a stainless-steel sheathing.

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The real time data from these temperature probes is transmitted through a complex array, emerging through the pump's baseplate, to a centralised dashboard, enabling engineers to monitor and control operations remotely. If bearing temperatures exceed a critical threshold, the system automatically shuts down the pump and initiates a flushing process, preventing damage and minimising downtime.

This innovative approach delivers significant operational benefits, including:

- Enhanced reliability and safety through real-time monitoring and automated shutdowns.
- Reduced spare parts requirements and maintenance downtime.
- Prolonged pump life by preventing bearing damage before it occurs.

Amarinth successfully designed and tested the refurbished pumps in just 20 weeks, demonstrating its agility in delivering innovative solutions. To further support ADNOC Gas, Amarith also offered an optional installation service. ADNOC Gas has since launched these upgraded pumps as a pilot project, assessing the feasibility of implementing this modification across its fleet of VS4 pumps at multiple sites.

Beyond this project, Amarith provides its specialised expertise in modifying VS4 vertical pumps for bearing temperature monitoring and flush systems not only for its own pumps but also for non-Amarinth VS4 pumps. These enhancements can improve functionality, boost reliability, and extend the operational lifespan of all VS4 vertical pumps within an organisation's infrastructure.

Oliver Briggshaw, Managing Director of Amarith, commented: "Once again, we are delighted to assist ADNOC, a long-standing customer, in upgrading their existing pumps. This remote bearing temperature monitoring and flush system showcases our commitment to delivering cost-effective, tailored solutions that meet our customers' evolving needs. By enhancing their operations without the disruption of installing new pumps, we've reinforced the trust ADNOC places in us as their partner of choice."

OPTIONAL PANEL or BOX ITEMS



Amarinth engineer testing an external flush panel

NOTES TO EDITORS:

Amarinth is a carbon net zero organisation delivering world-leading expertise in the design, application and manufacture of centrifugal pumps and associated equipment for critical applications in many of the most arduous and hostile environments around the globe.

Founded in 2002, Amarith has harnessed the skills, creativity and passion of people who have worked in the pump industry for decades, delivering bespoke API and ISO pumps primarily to the offshore and onshore oil & gas industries; nuclear and renewable energy generation; defence; desalination; process and industrial markets.

The company's innovative approach, business agility and use of sophisticated computer applications enables it to deliver robust, reliable and sustainable pumping solutions on the shortest lead times in the industry.

Amarinth's portfolio includes:

- **Process pumps** – API 610, API 685, ISO 5199 horizontal, vertical and in-line bespoke process pumps, including ones that are hydraulically and dimensionally interchangeable with the former Girdlestone and other obsolete pumps.
- **Skid packages and modules** – Supplied with a variety of drives for applications including de-sanding, mixing, filtration and chemical injection and tailored for the oil & gas, water treatment and power generation industries.
- **Condensate recovery** – Cutting-edge design providing low NPSH up to 98°C with variable speed drives to reduce cycle time and lower operating costs, available in stainless steel, galvanised or copper tanks for light or heavy industrial uses.
- **Seal support** – Integrated pressurised and vented seal support systems designed and delivered to API 682 and ISO 5199 standards and specific site specifications and requirements, working closely with AES, Eagle Burgmann, John Crane and Protect System.
- **Spare parts** – Critical spares for all Amarith pumps and related components can be dispatched the same day, reducing potential downtime, and in addition components for the former Girdlestone and other obsolete pumps can be re-engineered often improving the performance of existing assets.
- **Services** – A full range of pump related services, delivered from UK head office or on-site globally, onshore or off-shore, including full commissioning and start-up support; also strip, report and refurbishment of any pump regardless of manufacturer.

Amarinth operates globally from its base in Rendlesham Suffolk, United Kingdom and offices in the Middle East and Malaysia with a global customer base, including BP, Shell, ADNOC, NOV, ExxonMobil, Schlumberger, COSCO, EDF, GlaxoSmithKline, Saudi Aramco, Pfizer, Diageo, Kuwait Oil Company, AMEC, Fluor, Halliburton, and Babcock.

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