

Aftermarket Support – The Key to Restoring a Wastewater Treatment Plant to Full Operation

Challenge

At a leading Gulf state water company, 25% of circulation pumps in an odor control system were out of service for an extended period because the equipment manufacturer had discontinued production and spare parts became unavailable.

Solution

Flowserve proactively proposed restoring the full capacity of the odor control system by replacing the non-functioning circulation pumps with highly reliable INNOMAG® TB-MAG™ sealless thrust-balanced process pumps. The company purchased six pumps. In addition, Flowserve is providing local aftermarket support (including guaranteeing sparts parts availability for 20 years) from a local Flowserve office and through a distributor in the country.

Pump failures: No spare parts and unplanned downtime

The state-owned supplier of potable water and wastewater treatment services had purchased sealless end-suction pumps from a small, low-cost Korean manufacturer. After a few years, the manufacturer stopped production of the pumps and offered no after-sale support in the water company's country or elsewhere in the Gulf region. Sources for spare parts quickly dried up, leaving the water company with no option when mechanical failures occurred, except to keep the pumps off-line indefinitely. At one point, 6 of 24 chemical process pumps had malfunctioned and caused unplanned downtime.

After learning about the water company's situation, a Flowserve engineer and our local distributor, both based nearby, approached water company operators to learn more about requirements for the pumps. Among the special application conditions: the pumps had to be installed vertically in a uniquely sized mounting in the odor control system. The water company emphasized its need for local technical support as well as an after-sale pump maintenance workshop located nearby. Also in the requirements: spare parts must be available for at least five years.



Existing circulation pump installation



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Unique vertical mounting of sealless, thrust-balanced process pumps

Flowserve leveraged its global resources and deep engineering expertise to work alongside the water company team to define requirements and selection criteria for replacement of the chemical pumps. After the subsequent bidding process, the water company selected Flowserve. Flowserve was the only manufacturer to offer to build the pumps with special frames for vertical installation. As a result, our design avoided on-site modifications and reduced replacement costs for the water company.

The water company invested in six INNOMAG® TB-MAG™ sealless thrust-balanced process pumps whose design eliminates mechanical seals and conventional bearings, which are responsible for nearly 80% of all pump breakdowns. The needs for shaft alignment and impeller adjustment also have been eliminated, and no lube or oil changes are necessary. The INNOMAG TB-MAG pump is fully contained and hermetically sealed, which means no leaks or fugitive emissions. This makes it not only cleaner but also safer for operators and the environment. Unlike the typical process pump designed to operate reliably only at or near a single unrealistic point (BEP), the INNOMAG TB-MAG pump can operate practically anywhere on the curve due to its thrust balancing design.

Only bidder to offer local engineering, maintenance and repair services

Most important to the water company operators, however, was the fact that the Flowserve office located in its Gulf country is staffed by engineers and technical specialists available to provide prompt after-sale support. A Flowserve supplier, through whom the water company purchased the INNOMAG TB-MAG pumps, also operates a workshop nearby should maintenance or repair needs ever arise. Flowserve was the only bidder to offer local after-sale support.

And, Flowserve guaranteed availability of spare parts for not just the five years the water company specified — but for a total of 20 years.



Typical horizontal, foot-mounted INNOMAG TB-MAG pump



Installation of two INNOMAG TB-MAG sealless pumps with custom vertical mounting



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Count on Flowserve's global and local expertise

Following competitive bidding, the Gulf water company awarded Flowserve a contract to replace chemical circulation pumps because of all our capabilities and especially because of our local presence, after-sale support in the field and spare parts availability can be counted on for years to come.

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