

APE Pumps completes orders for Iranian mine



Pontoon assembly adjacent to the tailings dam at Sungun mine.

APE Pumps has completed two orders placed by Iran's Sungun copper mine, one for a train of eight pumps to operate as a very large multistage machine transferring slurry to the tailings dam, the second for four pontoon-mounted axial flow pumps to recycle dam water. The two orders are together worth some US\$6,4 million to Wadeville-based APE Pumps.

John Montgomery, the engineer behind the design of the twelve machines covered by the two orders, said when commenting on the order that South African engineering companies are stepping in to fill part of the void left by European firms reluctant to enter into contracts with Iran.

"We have this year received an order for

a large mixer pump related to the Iranian oil industry, and we are tendering on several other contracts in that country," he said. "Orders from Iran are likely to increase."

APE's multistage pump train for Sungun comprises eight high pressure (70 bar) slurry pumps fitted with modified impellers to improve efficiency and performance, and delivering a capacity of 1 000 m³/h to manage slurry transfer in the recently expanded mine. These pumps were installed mid-2014 to complement two similar slurry pump trains, one operational and one on standby, manufactured by a competitor and installed in the original concentrator plant.

The open-pit Sungun mine is located

at high altitude (2 390 m) in the Qarabagh Mountains of East Azerbaijan province, north-west of Ahar city. Annual ore production of approximately 14 Mt is deposited in a large tailings dam after copper extraction.

Iran's scant average annual rainfall of 230 mm dictates that the mine recycles its tailings dam water for reuse in the extraction process, and it is for recycled water transfer that the pontoon pumps were ordered. Sungun mine has a recycled water target of 85 %.

The pontoons were assembled and fitted with APE's vertical turbine pumps in a small excavation immediately adjacent to the tailings dam. When assembly was complete, the wall of the excavation was broken through to the dam, allowing the pontoons to float free.

Each equipped with two standard 18-inch APE vertical turbine pumps driven by 600 kW WEG motors, the two pontoons are fitted with weatherproof housings as well as de-icing agitation pumps as protective measures against the very cold winters of East Azerbaijan. Winches are used to anchor them to various points around the dam.

Commissioning is scheduled for later this year.

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