Largest Wastewater Treatment Plant to Open in Abu Dhabi

GE Energy Management

GE’s Power Conversion business has announced that it has won a contract of more than $10 million to supply eight pump drive trains, as well as process automation for the largest wastewater treatment plant in the world. It will be located just outside of Abu Dhabi, United Arab Emirates, and will provide water for local agricultural needs.

This pumping station project is part of the Strategic Tunnel Enhancement Program (STEP), a 40-kilometer long wastewater tunnel intended to address rapidly growing needs for the collection and transport of used water generated by the growth of Abu Dhabi. It is a key element of the government initiative to provide local agriculture with improved access to good quality water.

When fully operational in 2030, the plant, featuring wastewater pumps powered by GE’s drive trains, will be able to treat up to 70,000 cubic meters of wastewater every hour. The pumps will be driven by GE’s vertical variable-speed motors, a highly specialized application for vertical motors working at low speed (500 revolutions per minute at rated speed).

This contract highlights GE’s expertise in electrification and its commitment to supporting the development of growth regions around the world. GE’s Power Conversion business has a strong focus on the Middle East, China and Latin America.

“STEP has chosen a proven GE technology, which already has a solid track record in the hydro segment,” said Keiran Coulton, industry vertical leader, GE’s Power Conversion business. “This unusual project requires that the engineering, procurement and construction (EPC) contractor work closely with the suppliers of the pumps and drives to provide an optimal overall resolution. The piping arrangement in this project creates an impressive series of vertical water columns, and the motor has been designed to manage the large amounts of water that may flow backward through the system when the pumps are shut down.”

In all, GE will provide design studies and deliver eight pump drive trains (motors, variable-speed drives and transformers), each with a power of 6.38 megawatts, together with pump process automation. GE will deliver the first equipment in the second half of 2013 for product validation.

GE also provided a preliminary harmonic study to help the customer on the overall plant grid study. Its integrated automation solution has been designed to enhance the control of the pump and the motor. “The overall solution is highly energy efficient,” explained Coulton.

GE won the contract for several reasons. “The company is very well positioned both from a technical and commercial point of view,” said Hitachi Plant Technologies, Ltd. “GE’s Power Conversion business provided deep domain expertise and technical support to Hitachi and the EPC contractor from the start of discussions right through to the signing of the contract. GE showed its flexibility as a global leader in rotating machines by producing motor designs not available as standard in the marketplace.”

GE acquired Power Conversion (then known as Converteam) in September 2011. GE’s Power Conversion business applies the science and systems of power conversion to help drive the electric transformation of the world’s energy infrastructure. Designing and delivering advanced motor, drive and control technologies that evolve today’s industrial processes for a cleaner, more productive future, it serves specialized sectors such as energy, marine, industry and all related services. To learn more, please visit: www.ge-energy.com/electrifyingchange *[1].*

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