Supporting Bahrain’s Oil & Gas Industry

The Bahrain Petroleum Co. (BAPCO) has chosen GE to design and supply a membrane bioreactor (MBR) system for its oil refinery wastewater treatment plant in Sitra, near Manama. The project and the GE-supplied advanced water treatment technology will support BAPCO’s environmental leadership efforts to achieve the stringent wastewater quality levels specified by Bahrain’s General Directorate of Environment and Wildlife Protection regulation for wastewater discharge into the Gulf.

“BAPCO is committed to managing its precious water resources wisely,” said Mr. A. Jabbar A. Karim, acting general manager, Major Engineering Projects Division, BAPCO. “With this project, GE is supporting us to realize our goals of minimizing the environmental impact from our refining operations, while safeguarding the refinery’s capital equipment at the same time.”

Wastewater from refineries is complex and requires extensive treatment. The BAPCO refinery, one of the largest in the Middle East and the oldest in the Gulf Cooperation Council union, refines more than 250,000 barrels of crude daily. GE’s ZeeWeed* technology will handle a maximum wastewater flow of about 24 million liters per day, roughly the amount of water required to fill an Olympic-sized swimming pool, from the refinery and Sitra tank farm.

“The BAPCO wastewater treatment plant is another example in GE’s long history of supporting customers in Bahrain with innovative energy technology — in this case, advanced water solutions — to meet their toughest operational challenges,“ said

Joseph Anis, president and CEO, GE Energy for the Middle East. "We are committed to continue delivering advanced solutions that increase the supply of clean water necessary and meeting the environmental commitments for the expansion of Bahrain's economy."

At the heart of the system is GE's ZeeWeed MBR technology. GE ZeeWeed technology sets the standard for hollow-fiber ultrafiltration technology combined with biological treatment, which is the preferred way to handle complex wastewater because it produces consistently high-quality effluent suitable for discharge or reuse application. GE will supply a ZeeWeed MBR system consisting of four MBR trains, each with 10 membrane cassettes containing ZeeWeed 500 rugged, reinforced membrane modules. It is being supplied under contract with EPC contractor GS Engineering & Construction, and is expected to be operational in the fourth quarter of 2012.

GE also will design the MBR system and provide support during its first five years of operation. GE's water and process technologies business also has supplied water-treatment chemicals for the BAPCO refinery.

The Middle East is an important region for GE's water business, and the company has regional centers of excellence in Dubai, United Arab Emirates, and in Dammam, Saudi Arabia, for both research and manufacturing. GE and Miahona signed a memorandum of understanding, which provides a framework for promoting the use of advanced membrane technology, such as membrane bioreactors in water reuse and the pursuit of wastewater treatment, wastewater reuse and zero liquid discharge projects in the Kingdom of Saudi Arabia.

For more information, please visit www.ge.com *[1].*

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[1] http://www.ge.com/