

Veolia contracted to install waste water treatment facility at Distell

Veolia Water Technologies has been awarded the contract to design, build and operate South Africa's first Biobulk Waste Water Treatment facility.



The plant, owned by Distell in Stellenbosch, will be ready for commissioning in March 2016. On commissioning, a ten year build, operate and transfer (BOT) agreement comes into force.

Distell has three operational sites in the Stellenbosch area - Adam Tas, Van Ryn and Bergkelder. Over the last four years, Distell has developed their green plan to install a common anaerobic water treatment facility that will lower the chemical oxygen demand (COD) load in the outfall to the municipality, harvest the energy in the waste water and lower the overall cost of effluent treatment.

Proven process

The selected Veolia Biobulk continuous stirred tank reactor technology is a green technology and is a robust and proven process that treats industrial effluents with significant amounts of suspended solids. It is the anaerobic equivalent to the conventional activated sludge digestion system. Following an anaerobic suspended bacteria treatment process, the majority of the soluble and solid organic content, measured in COD, is converted into biogas.

The Biobulk can be operated as a once-through system or, alternately, biomass can be returned after a clarification stage.

The key to the Biobulk design is the manner in which the reactor vessel is mixed and the design of the degassing stage prior to clarification. The biogas is a source of renewable energy and converted into steam for the Distell site.

"The Biobulk system represents a long-term capital savings investment. It brings with it an operating cost saving whereby solids in the effluent need not be removed; they can be converted to biogas, or energy, in the reactor," says Jaco Oosthuizen, technical manager at Veolia.

Ancillary equipment

The effluent in this plant will be treated by the Biothane Biobulk anaerobic digester, the heart of the plant. Ancillary equipment includes storage buffer tanks, clarifiers, the centrifuge, boiler and biogas flare. First, the digester reduces the effluent COD content by 94.1%. Next, a clarifier removes suspended solids, in turn followed by Veolia hydrotech drum filtering for tertiary treatment. This ensures the total suspended solid concentration is less than 150mg/l.

The BOT contract will enable Veolia to assume full ownership of the plant's functions for the agreed period. This will ensure an appropriate transition from Veolia's commissioning teams to its operations team.

"Once the plant has been commissioned it will be handed over to our operations and maintenance division in the Western Cape. This division will perform all operations and maintenance functions for ten years," Oosthuizen explains.

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