

Minister turns the valve on SA's largest conduit hydropower installation



Bloemwater electrical technician, Jacques van Delft, assists Minister of Water and Sanitation, Nomvula Mokonyane, to open the valve at the conduit hydropower facility at Brandkop reservoir.

The largest conduit hydropower installation in South Africa has been officially launched at Bloemwater's Brandkop reservoir, in the Free State.

The collaborative partnership between the Water Research Commission, University of Pretoria, and sector partners such as City of Tshwane, Bloemwater and eThekweni, has led to the successful development and demonstration of conduit hydropower in South Africa. Conduit hydropower is the extraction of available energy from existing water supply and distribution systems. The technology involves tapping into an unutilised source of hydropower by using excess energy in pressurised conduits to produce hydroelectric power.

The Bloemwater installation involves the Caledon-Bloemfontein potable water supply system, which supplies the majority of the water demand in Bloemfontein. The water is supplied to

the Brandkop reservoir, where the water utility's head office is located. The conduit hydropower technology involves tapping excess energy through pressure control valves before the water is discharged into the reservoir. In this manner, 96 kW/h of energy is generated – enough to power Bloemwater's headoffice.

"This is indeed an extraordinary collaborative effort and one that all South Africans should celebrate," noted Minister of Water and Sanitation, Nomvula Mokonyane at the launch. "For water supply utilities introducing enhanced in-house energy generation will alleviate, to some extent, dependency on the already stressed national grid and keep their energy costs down. It requires a small capital investment and has a short return on investment period. As long as people use water, renewable electricity can be generated."