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Angola Water Treatment Plant, Cunene, Angola

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Key Data



The Angola Water Treatment Plant (WTP), which started operations in February 2014, supplies water from Xangongo to Ondjiva, located in the province of Cunene in southern Angola. The WTP was built to meet the water needs of the Ondjiva region, which has been facing a major drought for the past two years. The plant runs throughout the year and has a capacity to treat 24.4 million litres of water per day.

The project was undertaken by the Ministry of Energy and Water, to provide fresh

drinking water to approximately 250,000 people of the Cunene province.

A joint-venture (JV) between Befesa, the environmental services subsidiary of Abengoa, and Riogersa, a subsidiary of Eurofinsa, was the main contractor for the construction of the plant. The JV was awarded the contract for building a treatment plant and a production system by the Ministry of Energy and Water through its National Water Directorate (NWD).

Total cost of the project was estimated at \$101m, which was financed by Deutsche Bank as per the arrangement with the Ministry of Finance.

The average monthly headcount of people employed at the project was 82, which increased to 312 during peak activity phases.

Angola water treatment project details

The scope of the project included developing a catchment pumping station on the River Cunene, a water treatment plant in Xangongo and separate pumping stations and tanks in the villages. It also included laying 100km of 630 HDPE pipeline separating Xangongo from Ondjiva.

Comprising a water line and a sludge line, the facility also includes two treated water tanks with a capacity to store 5,000m³ of water. The Xangongo pumping station lies close to the treated water tanks, which include a (2+1) frequency variator-equipped motor pump system for the city of Mongua and another (2+1) system for Xangongo and Humbe.

Xangongo pumping station supplies water to the city of Mongua, through a 42km-long DN 630 HDPE pipeline.

HTWTP Long-term Improvements Project, San Bruno, California

Mongua will have two tanks with a total capacity of 2,000m³, an elevated tank with 150m³ capacity and 20m height, and a pumping station under construction. The pumping station will include a (2+1) frequency variator-equipped motor pump system for the city of Ondjiva and another (1+1) system for the Mongua elevated tank, with power capacities of 396kW and 15kW respectively.

Mongua pumping station will supply water to the city of Ondjiva, through a 56km-long DN 630 HDPE pipeline.

Harry Tracy Water Treatment Plant (HTWTP) is located

Two branch lines comprising a 4km DN 110 HDPE pipeline and a 700m DN 160 HDPE pipeline are being laid to supply the cities of Missao de Mongua and Bulanganga. Work is in progress for the construction of two tanks with a total storage capacity of 1,000m³ in Missao de Mongua and a further two tanks with a total storage capacity of 2,000m³ in Bulanganga.

approximately
1,000ft east of
the San
Andreas Fault
in San Mateo
County, San
Bruno,
California, US.

A 4,200m³ storage tank, 605m³ elevated tank and a pumping station featuring a (1+1) frequency variator-equipped motor pump with a power capacity of 110kW, which will supply water to the elevated tank, is being built in Ondjiva.

The functioning of all the pumping stations, tank levels and the system are monitored through optical fibre for all the installations along the 100km length of pipeline by the control room housed inside the treatment plant.

Water treatment at the plant

Water from the Cunene River will be treated at the plant, supplied through a 300m DN 630 HDPE pipeline. The pre-treatment process involves methods including coagulation, flocculation, decantation and filtration.

Reactive systems are fitted in the plant for disinfection using aluminium sulphate, coagulant, lime and calcium hypochlorite. The treated water is then tested in a laboratory to adhere to the drinking water quality norms set by the World Health Organisation (WHO).

History of the Angola WTP

The Angola WTP was built under the first stage of phase 2 of the Ondjiva Strategic Water Supply and Sanitation Plan. The second stage expansion of the installations will ensure that the inflow of water into the treatment plant is doubled.

Phase 1 of the Ondjiva Strategic Water Supply and Sanitation Plan covered the construction of the Xangongo Drinking Water Treatment Plant (DWTP), which covers an area of three hectares and treats 16,300m³ of water per day from the Cunene River.

"The project was undertaken by the Ministry of Energy and Water, to provide fresh drinking water to approximately 250,000 people of the Cunene province."

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