Engineering Structures for Life

ENVIRONMENT - ENERGY

Hydroeletric Plant of Gorongosa

ABOUT

The main purpose of the Hydroeletric Plant of Gorongosa is to improve the reliability of water supply to the Gorongosa region. For this purpose, a dam was built on the Nhandare River, in a section near the village of Gorongosa.

In the dam reservoir was created a water abstraction which, within the scope of the project, was raised to a reservoir of passage, in a flat zone at a short distance from the dam. It is expected, outside the scope of the present contract, that this reservoir support the future WTP (Water Treatment Plant).

The reinforced concrete dam will have a length in the dam's summit of about 69 m, a height of 13,3 m and will enable the generation of a 125.3 km^2 reservoir area.

The general section proposed for the dam is an inverted "T" for the spillway passages and non-spillway passages, in the riverbanks. The dam will have 4 bottom spillways (one in each abutment and two in the centre).

Was foreseen a walkway and roadway overpass above the spillways, composed by three simply supported spans of 19,25 m. Each deck is materialised by two Pratt lattice girders and a lower deck with 3,0 m wide, constituted by beams and mixed slabs.

FACTS

Year: 2013-2015
Client: Tovisi Mozambique
Services: Detailed design, Structural Engineering, Mechanical, Electrical and Plumbing design, Plumbing design, Instrumentation & Monitoring, Geological and geotechnical studies

TEAM

José Luís Barbosa
Ricardo Leite

LOCATION

Gorongosa, Mozambique

The following works were designed and planned:

- Dam and other structures, including: Spillways, integrated into the dam; Non-spillway passages of the riverbanks; Bottom spillways; Water abstraction to support the future hydroelectric plant; Water abstraction to supply; Pumping station; Hydro and mechanic equipment; Walkway and roadway overpass above the spillways;

- Pipeline from the pumping station to the reservoir of passage;
- A reservoir of passage.