

## Low Head Plants

## Burç Dam and Hydroelectric Power Plant TURKEY



Burç Dam and Hydroelectric Power Plant is a hydropower scheme located on Göksu River in Adıyaman province, south east of Turkey. It is a BOT project licensed by the Ministry of Energy and Natural Resources (MENR). Still undergoing construction, the project is planned to be operational at the second half of year 2010. The dam is 47 m high above foundation with 152.50 m crest length. The embankment is roller compacted concrete, impounding a total volume of 26.60 million m<sup>3</sup> in the reservoir. Power intake is located at the right bank with a 20 m high concrete structure adjacent to dam body. Power tunnel has an inner diameter of 6.00 m and a length of 536 m. Penstock with a diameter of 5.00 m followed by a bifurcation in which penstock branches into three parts with a diameter of 3.45 m.

Spillway is located on the dam body and has three bays controlled by radial gates.

The powerhouse is a concrete structure and which has a length of 53.80m and a width of 31.50m. There are three generating units with kaplan type turbines, and total installed capacity is 27.90 MW.

**Client:**

Akkur Enerji Üretim Ticaret ve Sanayi A.Ş.

**Main Data:**

Roller Compacted Concrete

- maximum height above foundation 47 m
- crest length 152.50 m
- upstream slope vertical
- downstream slope 1V:0.7 H

- total volume 67000 m<sup>3</sup>

**Spillway:**

- no.s/type/size of gates 3/radial/10.5x17.0 m

**Powerhouse :**

- no.s/type of turbines 3/kaplan, vertical axis
- rated capacity/rated discharge 9.3MW/33.20m<sup>3</sup>/s
- rated head 29.19 m
- rotation/frequency 333 rpm/50 Hz
- firm energy production 44.13 GWh/a
- secondary energy production 68.34 GWh/a

**Execution:**

2008-2010

**Services :**

- Review, appraisal and recommendations for feasibility study
- Preparation of final design reports and drawings
- Preparation of technical specifications and tender documents
- Programming site investigations and evaluation of the works
- Assisting owner in evaluation of E&M bid documents
- Preparation of detailed construction drawings for project structures
- Verification of detailed design drawings of hydro-mechanical and electro-mechanical equipment
- Consultancy services to the owner during site construction works, before and during installation of hydraulic steel structures and of electro-mechanical equipment
- Monitoring acceptance tests and supervision of commissioning of equipment and plant



