

Medium Head Plants

## Yedigöze Dam and Hydroelectric Power Plant TURKEY



Yedigöze Dam and Hydroelectric Power Plant is a hydropower scheme located on Seyhan River in Adana province, south 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 end of the year 2010.

The dam is 130 m high above foundation with 400 m crest length. The embankment is zoned rock-fill with concrete facing on upstream side, impounding a total volume of 643 million m<sup>3</sup> in the reservoir. Power intake is at the right bank, a 50 m high concrete structure adjacent to dam body. Two penstocks of 6.30 m diameter exits from the power intake structure and goes down to powerhouse which is 400 m away. Spillway is at left bank but about 700 m away from dam body, its six bays controlled by gates. The powerhouse is a concrete structure upto erection bay level, and the crane hall, which is 67m long and 25 m wide is of steel construction. There are two generating units with francis type turbines, and installed capacity of each unit is 158.50 MW.

### Client:

Yedigöze Elektrik Üretim ve Ticaret A. Ş.

### Main Data:

Concrete faced upstream, zoned rock-fill embankment:

- |                                   |                        |
|-----------------------------------|------------------------|
| • maximum height above foundation | 130 m                  |
| • crest length                    | 400 m                  |
| • upstream/downstream slope       | 1V:1.4 H               |
| • total volume                    | 3700900 m <sup>3</sup> |

### Spillway:

- no.s/type/size of gates 6/radial/11.0x14.0 m

### Powerhouse :

- no.s/type of turbines 2/francis, vertical axis
- rated capacity/rated discharge 158.5MW/187.5m<sup>3</sup>/s
- rated head 94 m
- rotation/frequency 167 rpm/50 Hz
- firm energy production 608.34 GWh/a
- second energy production 334.48 GWh/a

### Execution:

2007-2010

### 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



