

Medium Head Plants

**Alpaslan II Dam and HEPP  
TURKEY**



Alpaslan II Dam is a clay core rockfill dam that has a height of 116.0m from foundation with a crest length of 844.0m, which is located on Murat River in Muş province in the East Anatolian Region of Turkey. The crest elevation and maximum water level are 1371.0m and 1368.0m, respectively. The upstream and downstream slopes are 1V:2.45H and 1V:2.25H. The project is licensed by the EMRA (Energy Management and Regulation Authority). The spillway, located on the left bank of the dam, has a design discharge of 7542.0 m<sup>3</sup>/s (PMF) and a crest width of 12.0 m where the six bays are controlled by the radial gates.. The spillway energy dissipation structure is a Type II stilling basin. The intake is located on the left bank of the stream and Its shaft crest elevation of 1371.0m. The energy tunnel has 8.0m diameter and 875.0m+950.0m length. The penstock of diameter is 6.3m, has two branches of 2.40 and 4.50 diameter. There are four vertical axis Francis type turbines having capacities of 2x110MW and 2x30MW. The project will be operational at the beginning of the year 2016.

**Client**

Enerjisa Enerji Üretim AŞ (Verbund)

**Main Data**

Clay core rockfill dam

- Maximum height above rock foundation 38.50 m
- Crest length 173.00 m
- Upstream/Downstream slope 10V:1.0H / 1V:0.8H
- Total Dam Volume: 12 450 000 m<sup>3</sup>

**Spillway**

- Crest width 12.0m
- Bays 6 no.s

**Bottom Outlet**

- Water Intake Diameter 8.00m
- Penstock Diameter 2.40m and 4.50m

**Power House**

- Nos./type of turbines 2+2 Francis, vertical axis
- Rotation/Frequency 125/250 rpm / 50 Hz.
- Rated Capacity 280.0 MW
- Rated Discharge 344 m<sup>3</sup>/s
- Rated Head 93.32 m
- Firm Energy Production 606.35 GWh/a
- Secondary Energy Production 255.92 GWh/a

**Execution**

2011-2016

**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.
- Verification of detailed design drawings of hydro-mechanical and electro-mechanical equipment.