

## Yusufeli Dam, 540 MW HEP, Turkey, Engineering Geological Consultancy/Geotechnical Design of Cut Slopes and Caverns

**Client:**

LIMAK, Ankara

**Country:**

Turkey

**Duration:**

Since 17.06.2013

**Services:**

Geological investigation, geotechnical consultancy, rock mechanics study, geotechnical cut slope design, excavation and support design for caverns

**Project objectives**

Establishment of a computer based 3-D ground model for all design issues as well as rock mechanical consultancy and geotechnical design for cut slopes of cable crane platform and dam body excavation as well as underground caverns.

**Project description**

Engineering geological and geotechnical consultancy for the construction of the Yusufeli dam. Concrete arch dam with a height of 275 m located in the Coruh valley in the north-east of Turkey.

**Project data**

Construction period 2012 until 2019; arch dam with a concrete volume of 2,350,000 m<sup>3</sup>; dam height 275 m; reservoir size 33.63 km<sup>2</sup>; energy production 540 MW, 1,827 GWh/year. The Yusufeli dam will be the third highest arch dam in the world.

**Project specifics**

The project site is located in a deep gorge of the Coruh river and contains cut slopes with a vertical extension of almost 500 m. Once completed, The Yusufeli arch dam will be the highest dam in Turkey. iC assists Su-Yapi Mühendislik's (Ankara) large design team, which is also supported by ARQ consulting engineers of South Africa.

**Services**

Engineering geological and geotechnical consultancy concerning site investigation and modelling; excavation design for temporary and permanent cut slopes for the Yusufeli dam. Geological assessments of relevant landslides in the future reservoir area. Excavation and support design of powerhouse cavern, transformer cavern and manoeuvre hall.

