

Replacement of Malgovert penstocks

Retaining structures

Jan. 2012 - Jan. 2015



FRANCE -
Bourg-Saint-Maurice

Client

SPIE BATIGNOLLES
TPCI

Project owner
EDF



Description of the project

The Malgovert installation is an essential link in the Haute Isère hydroelectric basin (three-quarters of the installed power, i.e. 300 MW available within minutes), and an important tool for management of the electrical network.

It consists of a 15 km supply tunnel leading to two penstock lines with a length of 1500 m and an altitude difference of 750 m located on a hillside subject to slow deep movements.

Key features

- Geotechnical consultancy
- Works follow-up on site

Description of the mission

The penstock replacement works were entrusted to SPIE-BATIGNOLLES, with TERRASOL as its geotechnical engineering consultant.

The works require the availability of mobile cranes and the displacement of very heavy sheet metal parts to the pipeline position.

Located in a slope with an average gradient of 30°, the earthworks for the site roads and platforms are tricky and require the design of numerous structures of various types: soil-nailed walls, riprap gravity walls, reinforced fills, rock-shed screens, etc.

In addition, the project is located in the mountains and on the site of an old installation. Therefore “surprises” are common - rapid variations in geology, presence of old or abandoned structures (retaining structures, foundations, tunnels, cableways, etc.) – and sometimes lead to archaeological issues. The project therefore requires very regular presence on the site during the works and continuous design adjustment with respect to real conditions of this complex site.