



EDF Water development project in Gavet

Retaining structures

2012 - 2014



FRANCE - Isère

Client

SPIE BATIGNOLLES
TPCI

Project owner
EDF

Miscellaneous

Supply gallery: 9,3 km long
(diameter: 4,7 m),

Surge tank: 180 m high,
Penstock: shaft of 163 m,

A power plant with 2
production units



Description of the project

TERRASOL conducted a global geotechnical expertise assignment for the new Romanche-Gavet water development project in Isère, with the participation of Alain GUILLOUX on the Technical Committee.

This development consists of an underground power plant equipped with two production units which will replace the six existing plants on the Romanche river and will allow production capacities to be increased by 10%.

The Romanche-Gavet project is the largest water project currently being developed by EDF (French National Electricity Board) in France.

Description of the mission

In parallel, TERRASOL is providing hydrogeological and geotechnical assistance during the works of the downstream release structures: a cofferdam was built to enable an excavation of 100 m by 30 m down to a depth of 12 m.

TERRASOL was entrusted with the definition and follow-up of the geotechnical soil-testing campaign at the beginning of 2012, and the preparation of the geotechnical assumptions report. TERRASOL then carried out external control of the cofferdam detailed design documents.

In addition, it's necessary to lower the water table below the excavation level in the event of a 10-year flood, and thus to design the relevant pumping solution. TERRASOL carried out a 3D hydraulic modelling to simulate as accurately as possible the real project conditions, i.e. irregular stratigraphy and the presence of a deep confined water level. A parametric sensitivity study (flow and position of pumping wells) enabled to optimize the pumping system.

Key features

- Participation to Technical Committee.
- Geotechnical assistance for downstream works.
- External control of the cofferdam design.

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