

Limmern (GL): Pumped storage plant (1000 MW), new construction of headrace waterway, cavern control centre

Client

Kraftwerke Linth-Limmern AG (KLL) c/o
 Axpo Power AG

Consultant

IUB Engineering Ltd and IM Maggia
 Engineering Ltd as an engineering
 consortium

Period

2007–2015

Construction costs

approx. 1.8 billion CHF

Scope of services

- Construction project
- Tendering
- Main project

Description

The new Limmern power plant is a pump storage power plant with low natural inflow from the very small catchment area of Lake Mutt. Lake Mutt, which is dammed, serves as the upper basin, with the existing Limmernboden reservoir functioning as the lower basin. The power plant planned by IUB Engineering Ltd in the IG Alpenstrom engineering consortium covers the following sub-areas:

- Intake/outlet structure Lake Mutt
- Headrace pressure tunnel with a passive pretensioned in-situ concrete lining, $D_i = 8.00$ m
- Shaft surge tank, height 130 m and internal diameter 10.50 m
- Valve chamber, chamber height 20 m, length 66 m
- Two armoured pressure shafts, $D_i = 4.20$ m
- Machinery centre with four pump turbines, chamber height 53 m, length 156.5 m
- Transformer chamber with four transformers, chamber height 24 m, length 138.5 m
- Two high-pressure tailrace tunnels with a passively pretensioned in-situ concrete lining, $D_i = 5.50$ m
- Several access tunnels and construction chambers
- Materials management and preparation



Main Data

- Installed capacity: 4 x 225 MW
- Design discharge: 190 m³/s
- Gross head: 560–724 m