

Upgrading of Hydropower Plant Handeck 2

Client

Kraftwerke Oberhasli AG (KWO), Innertkirchen / Canton Berne

Consultant

IUB Engineering AG

Construction period

2013–2016

Construction costs

65 mio. CHF
 (civil & hydraulic steel works)

Scope of services

Preliminary studies, detail design, tender documents and execution design.

Description

The hydropower plant Handeck 2 is more than 60 years old and upgraded as part of the investment program "KW0plus". With this new facility the water from the Räterichsboden reservoir can be used more efficiently.

Parallel to the existing penstock, a new pressure tunnel was bored from Räterichsboden to the surge chamber Handeckfluh, from where an inclined pressure shaft leads to the new cavern Handeck 2A. The added cross-section reduces hydraulic friction in the system, while the additional 90 MW Pelton turbine offers additional power generation capacity and operational flexibility.

Main data:

- connection to the existing intake structure at Räterichsboden reservoir
- pressure gallery L = 3,356 m, hydraulic diameter $D_h = 4.5$ m
- valve chamber Gersteneegg L × B × H = 9 m × 12.5 m × 9.5 m
- surge chamber Handeckfluh L × B × H = 19 m × 10 m × 13 m
- pressure shaft L = 744 m, inner diameter D = 2.4 m
- cavern Handeck 2A of B × L × H = 18 m × 44 m × 31 m
- increased power capacity from 132 MW to 222 MW
- connection to the existing tailrace tunnel
- several access galleries of 6 km length in total

