PUMP STORAGE HYDRO POWER STATION LIMMERN LINTHAL (CH)

EMPLOYER
Kraftwerke Linth-Limmern AG KLL, CH-8783 Linthal

TIME OF COMPLETION

CONTRACT SUM
CHF 681 Mio.

EXECUTION OF THE WORK
ARGE Kraftwerk Limmern

CONSORTIUM PARTNERS
Marti Tunnel AG, CH-3302 Moosseedorf
Marti AG Bauunternehmung, CH-8050 Zürich
Marti Technik AG, CH-3302 Moosseedorf
Toneatti AG, CH-8865 Bilten

LEAD COMPANY AND TECHNICAL LEAD
Marti Tunnel AG, CH-3302 Moosseedorf

COMMERCIAL LEAD
Marti AG, Bauunternehmung, CH-8050 Zürich
PUMP STORAGE HYDRO POWER STATION
LIMMERN
LINHAL (CH)

SCOPE OF THE WORKS
Extension of the existing power station with a pumped storage scheme. Increase of the total power production from 450 to 1'450 MW and water storage volume from 9 to 25 Mio. m³. The work will be executed at various sites. The only possibility for access from the valley in Tierfehd to the work sites is by means of cable car.

The work involves the following stations:
- Tierfehd 817 metres above sea level
- Cavern Limmernsee, alt. 1’800 m
- Ochsenstäfeli Limmernsee, alt. 1’800 m
- Access tunnel, alt. 2’350 m
- Mutsee, alt. 2’446 m

ACTIVITIES
- 2 inclined pressure shafts, drilled with a tunnel boring machine, l = 2 x 1’120 m, Ø = 5.2 m, inclination = 45°
- Machine- and transformer caverns for 4 groups of 250 MW each
- Various connecting tunnels, cavern system OW / UW, Total approx. 1,200 m, A = 18 - 29 m²
- Access and service tunnels by drill and blast
- Two tailrace galleries, l = 530 m, Ø = 5.5 m
- Headrace gallery, l = 575 m, Ø = 8.0 m
- Valve chamber
- Concrete dam Mutsee, l = 1’050 m, h =35 m
- Surge shaft h = 130 m, Ø = 11.7 m
- Concrete work above ground for the power station intake and outlet structures at Limmernsee and at Mutsee
- Crusher and concrete plant (April, 2011=250’000 m³)
- Concrete aggregate processing plant
- Management of spoil dump area at 2’470 m altitude

GENERAL CONDITIONS
- Complete underground hydroelectric power station
- Access from the valley only by cable car
- High alpine environment with big potential of natural hazards
- Very limited space in all construction areas
- Unstable weather conditions

Board and lodging:
- Tierfehd, equipped for 420 employees
- Mutsee, equipped for 120 employees