

Grande Dixence Gravity Dam in Switzerland - the World's Highest Concrete Gravity Dam

Presentation by **Martin Wieland**
on behalf of the dam owners
Grande Dixence Ltd. and Alpiq Ltd., Switzerland

50th Anniversary of Grande Dixence Gravity Dam, Switzerland (September 22, 2011)



World's highest concrete gravity dam

Dam height: 285 m

Reservoir volume:
400 Mm³

Crest length: 695 m

Crest width: 15 m

Base width: 198 m

Crest el.: 2364 m asl

Completion date: 1961

Installed capacity:
2422 MW





Extreme mountainous environment





Technical data

Foundation: crystalline rock

Dam volume: 6 Mm³

Average cement content:

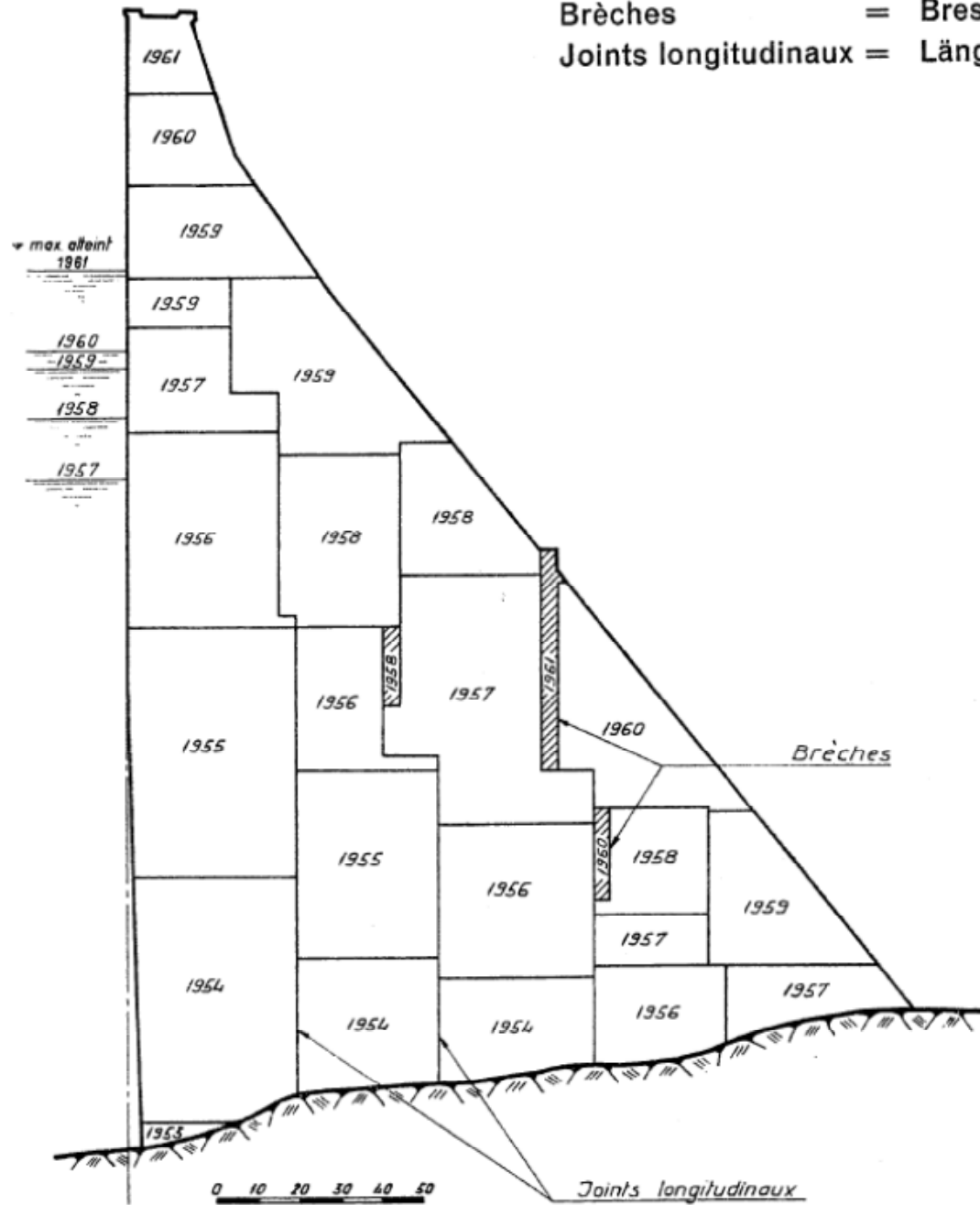
180 kg/m³ concrete

Lift elevation: 3.2 m

Cooling pipes: ca. 1000 km

Grout curtain: 200 m deep

Max. atteint = Maximaler Stau
 Brèches = Breschen
 Joints longitudinaux = Längsfugen











35 km of galleries and shafts in dam



Water transfer from other catchments



Extension of plant for peak power production

- Cost of extension works 1993-1998: ca. USD 1.5 billion
- Penstock failure in 2000: new plant out of operation for about 9.5 years
- Available max. head: ca. 1880 m
- Seasonal water level change in reservoir: ca. 190 m

