Annonce de conférence

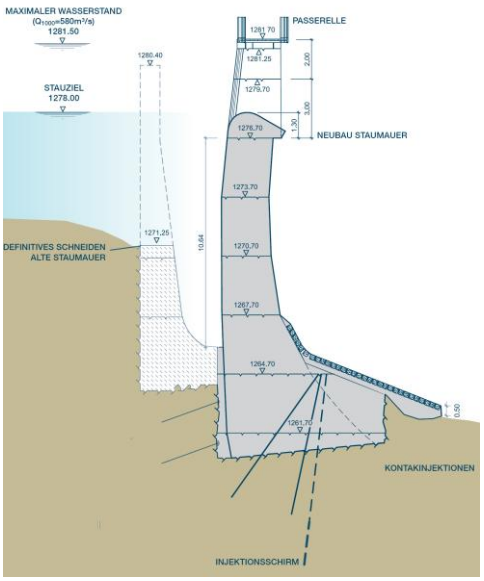
Jeudi 10.11.2011 à 17:15, Salle GC C30 (Génie Civil)

Gaël MICOULET

Ingénieur Génie Civil, ALPIQ, Lausanne, Suisse

Réhabilitation du barrage de Serra au Simplon

The Serra dam is located on the southern side of the Simplon Pass, in Canton of Wallis. The old arch dam was constructed in the years 1951-52 in order to guarantee a daily storage volume for the hydroelectric power plant of Gondo. The plant, owned by the Energie Electrique du Simplon SA (EES), is equipped with three Pelton turbines, having a design flow of 11.5 m^3/s and a total capacity of 45.4 MW, providing an average annual production of 177.3 GWh.




Demolition of the old dam

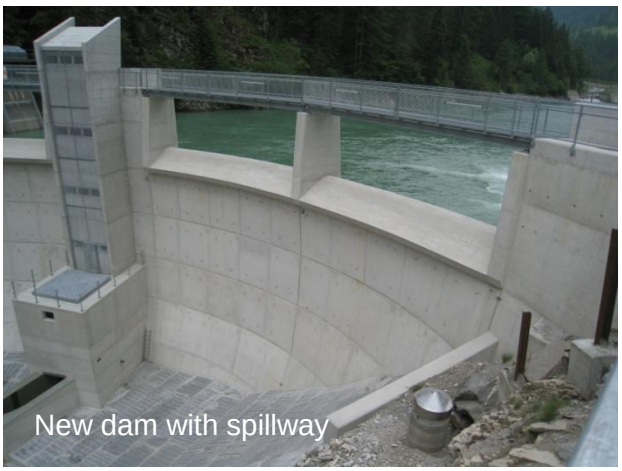
The concrete of the dam exhibited signs of expansion due to an alkali-silica reaction which, over the years, led to an irreversible upstream displacement and a heaving of the dam crest. These displacements caused scattered cracks in the dam, especially along the downstream perimeter, which have progressively led to a deterioration of the operating and security conditions of the dam. Following this situation, a rehabilitation of the existing dam was strongly recommended.

After analysis of several alternatives, the construction of a new dam few meters downstream of the existing one was decided.

The construction works including the demolition of the old dam, started in 2009 and were completed by the end of 2010.

Main characteristics of the dam

- Height : 22 m
- Crest length : 81.5 m
- Concrete volume : 3700 m^3
- Excavation works : 2300 m^3
- Spillway capacity : 580 m^3/s
- Weir length : 43.2 m
- Bottom outlet capacity : 40 m^3/s


New dam with spillway

La conférence sera donnée en français, durée env. 45 minutes, suivie d'une discussion

Prof. Dr Anton SCHLEISS