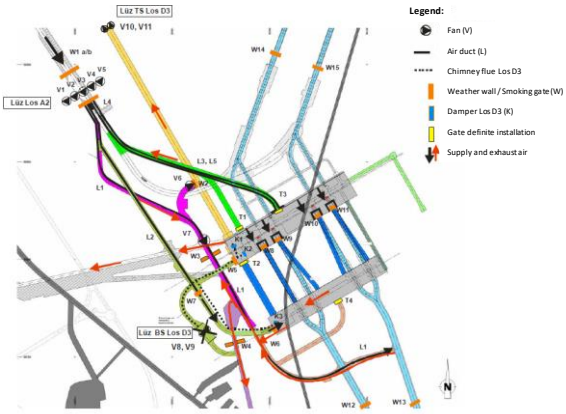
Lint Limmern Pump Storage Plant (CH)
Site ventilation

Left: Building condition of the machine cavern; Right: Utility tunnel of the cavern system



Overview sketch about the site ventilation concept to ventilate the tunnel and cavern system while equipment phase

Site ventilation system and lock system in the access tunnel and ventilation shaft

Description

One of the most important extension projects of AXPO is “Linthal 2015”. A new underground pump storage plant should pump back water from the Limmernsee into the 630m higher located Muttsee and, if required, use that to produce electricity. The new plant should have a pump capacity and turbine output of 1000MW each. The underground facilities of the power station consist of the following main elements:

- an approx. 3km long utility tunnel with a railway system
- multi-storey and complex branched machine cavern and transformer cavern including energy tunnel and drainage tunnel
- Various logistics tunnels necessary to build and operate the system

For the construction of the pump storage plant a complicated site ventilation had to be realised.

Services

- Collection of construction logistics foundations, necessary to plan and operate the site ventilation, and functional conditions of the underground plant area
- Determination of air requirement for particular underground working areas while completing the structural work and partly parallel outfitting and commissioning work
- Analysis of meteorological boundary conditions at the portals of the access tunnels and ventilation shafts which are relevant to plan site ventilation
- Definition of ventilation concept for the operating states of normal operation and event operation
- Design and specification of plant components (fans, air ducts, dampers, etc.) necessary for ventilation including smoke extraction systems provided for later operation of the cavern system
- Creation of a control concept for the ventilation system
- Support of tender, implementation and operation of the site ventilation system as well as planning the crossover from site ventilation to operating ventilation