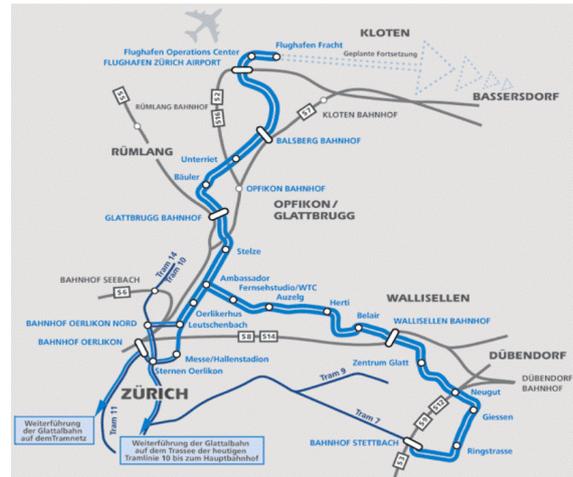


Delivering power for a new light rail system boosting the Glattal region

ABB has won the turnkey contract in co-operation with Implenia and Walo Bertschinger for traction power supply and power distribution systems for the Glattalbahn light rail, Zurich.



ARGE Gestaltung Glattalbahn – Ernst Basler + Partner AG, Feddersen & Klostermann und Nicolas Grimshaw & Partners Ltd. / Mathys AGV, Zurich



The Need

To cope with an increasing population in the Glattal region, north of Zurich city centre, local transport authority Verkehrsbetriebe Glattal (VBG) is to build a new light rail system in association with the Zurich local transport authority and tariff union, ZVV. The 12.7 km line will serve 150'000 local residents and 120'000 jobs in the area.

As the Glattal region becomes increasingly built-up, the system is thought to be vital to reduce congestion and open new journey opportunities that avoid Zurich city centre. It has been suggested that the system will be a prerequisite for any

further development in the area.

The first trams are expected to run on Phase 1 in 2006 and the third and final phase opening between 2008 and 2010. A second phase of construction is also planned that will take the system to Bassersdorf.

Project Details

The contract involves the design, supply, installation and commissioning of 8 DC traction substations feeding the system with 630 V and the power distribution for 23 passenger stations.

Different power distribution networks at 11, 16 and 22 kV

will provide power to the delivery points.

ABB has also submitted a 20 years maintenance and service proposal for the equipment, which has been asked for by VBG.

Design and manufacturing begins in 2005, installation will commence in the second half of 2006. Phase 1, with a total of 2 DC traction substations and 6 passenger stations has been completed in December 2006.

Main Technical Data



Primary Supply

- Rated voltage 11, 16 and 22 kV
- Rated frequency 50 Hz

Traction Power

- Nominal power 800 – 1250 kW
- Nominal voltage 630 V
- Duty class EN 50327, EN 50328 VII

DC Switchgear

- Nominal voltage 630 V (750 V)
- Rated voltage 1000 V
- Rated short-circuit current 40 kA
- Rated current, busbar 5500 A
- Rated current, feeder 2500 A



Substation Automation

The substation automation application based on the RTU560 consists of interfaces to protection and control equipment as well as metering devices and other automation products. The integrated HMI allows a basic local control and monitoring. Disturbance records and load profiles are easily stored in the RTU560 and transmitted on the communications network.

Technical Installation in Substation Building

ABB's scope of supply includes besides systems calculation, design, construction and commissioning of the traction power supply system also the complete technical installation in the substation buildings, i.e. lighting, ventilation and the fire fighting system.



The pictures above provide a comprehensive view of the technical installation in a typical underground substation building.