INP Reference

Vetropack – Medium-voltage Switching System

LOCATION: St. Prex, Switzerland

SERVICES: Project management, Quality assurance, Pre-project planning and tendering, Basic-engineering and pre-engineering, Detail engineering, Installation supervision

INDUSTRY BRANCH/TYPE OF PLANT: Transmission & Distribution, Chemical plants

CLIENT: Vetropack St. Prex

PROJECT SIZE: > 500.000 SFr.

POINTS OF CONTACT

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Project description

In the glass factory of St. Prex, the previous glass melt furnace was replaced with a highly modern system from January 2006 to April 2006. At the same time, three new storage buildings for a total of 47,000 pallet locations were built to optimize logistics. Including the expansion of the shard preparation system, which has already been completed, the investment for renovating the St. Prex glass factory totaled 36 million Swiss franks. Under these new conditions, a new power station had to be defined and planned in advance, with individual components such as transformers, MV system, and LV system.

INP Switzerland supported Vetropack, with the goal of obtaining a power station and medium-voltage system that met the latest state of the art and all current regulations.

Working closely with the customer, the following tasks were implemented:

- Consulting for the power station and MV system
- Basic and detail engineering for the power station
- Supply and installation of the MV system
- Project supervision
- Inspection and commissioning of the new switching system

INP services

Detail drawings had to be generated for the power station, under consideration of all applicable regulations. They included:

- Construction drawings (layout, views, and section drawings)
- Gates and doors
- MV cable routing, including conduit layout (switching systems for transformers)
- Bus bar layout (transformers to LV distribution)
- Transformer connection

- Transformer layout (spacing, height, busses)
- Oil catch pans
- Double floors
- Grounding plan
- BOMs of all required components

Additional work for the switching system:

- Development of all documents required for a switching transformer station application to the federal inspector for high-voltage current systems.
- Cost estimate for the power station
- Consulting on the selection of transformers and LV distribution
- Provide contract award recommendations
- Pre-acceptance after generation
- Supply of an ABB MV switching system
- Build and installation of the MV switching system
- Commissioning of the MV switching system
- Commissioning of protection relays, type: ABB REX 521

Data

- Rated voltage: 24kV
- Operating voltage: 13/20kV
- Rated short-time current: 25kA
- Collector bus rated current: 630A
- Two input and measurement fields; 18 output fields; and 1 each coupling and power-up field
- 6 AC oil transformers, 1000kVA/13-20/0.4kV
- 2 AC oil transformers, 1595kVA/13/0.4kV