Service for high-current equipment and systems
High-current busduct
Competence and technology of maximized excellence

High-current connections and their feeders rank among the most important parts of electrical equipment in a power plant.

The energy produced in the generator is transmitted out of the powerhouse to the main transformer via the high-current busduct (also known as the generator busduct). The high-current busduct connects the generator with the main transformer and its secondary equipment.

The special aluminum busbars of the busduct are featured with a wide range of disparate geometries and can be installed in different ways. So constructionally the current busduct consists of three basic types: open, partially enclosed and isolated-phase-enclosed. Since years ago the research and development have been majorly focusing on the isolated-phase enclosure, which is still in use today.

Highly qualified and skilled, our own certified service personnel has been carrying out inspections, overhauls, repairs, expansions of transformer connections as well as improvement measures on high-current busducts since 1969 worldwide.

**Inspection**

Inspection of the entire high-current system, from the generator to the main transformer, includes a detailed final report and explicit recommendations for the following system components:

- Post insulators
- Seals
- Expansion bellows
- Welded connections
- Aluminum expansion joints
- Supporting scaffold
- Electrical connections
- Contact material
- Negative pressurisation (if present)
- Measuring cells
- Instrument transformers

Duration: approximately 100 hours for all common types.

**Maintenance**

Regular maintenance of all components in the high-current system, from the generator to the main transformer:

- Replacement of all seals and expansion bellows
- Inspection of the bushings, the tapes and contact surfaces (cleaning and treatment)
- Replacing the contact material
- Post insulator checks, seal replacement and fixing material replacement
- Negative pressurisation/Air quality and pressure loss measurement (prior and past)
- Check of the surge arresters (replacing the membranes)
- Voltage transformers, current transformers, capacitor cells, measuring cells
- Maintenance schedule for the future
- Generator connection/Neutral point/Auxiliary transformer/Main transformer/Excitation transformer/Flue-gas desulfurization plant transformer

Duration: approximately 600 hours for all common types.
**Additional services**
The following additional service can be provided for the entire high-current system:

- Retrofit of negative pressurization
- Retrofit and modification
- Adaptation to a new transformer
- Replacement of old generator circuit-breakers and Adaptation of a new generator circuit-breaker
- Detection and localization of hot-spots by means of a thermovision camera
- Installation of temperature measuring equipment consisting of the temperature measuring strips, the system thermometer or the temperature sensor with the monitoring system
- Retrofit of omega compensator
- Supporting-structure expansions
- HV test and partial-discharge measurement

**Certified personnel**
Our service specialists install high-current busducts, carry out maintenance work, and weld high-current busducts of top-ranking manufacturers.

We possess specialized expertise in aluminum welding processes and high-voltage test. Owning profound expertise in production operations and the corresponding certification for high-current systems, we are in a position to meet our own stringent quality standards.

Certification in conformity with our quality requirements is renewed every 2 years.

In addition, our customers also benefit from our long-term global experience in customized system solutions for high-current systems.