

# Highest process reliability with high speed transfer devices PCK Raffinerie GmbH

For 30 years now, PCK Raffinerie GmbH has relied on high speed transfer devices for uninterrupted power supply to its continuously operating plant

With a processing capacity of 11.6 million tonnes of crude oil per year, PCK Raffinerie GmbH ranks among the largest refinery complexes in Germany. The plant in Schwedt is predominantly supplied with oil from western Siberia through the Druzhba ("Friendship") pipeline. As a back-up, PCK can also purchase crude oil from the Rostock oil terminal.

Environmental protection and safety are writ large at PCK, and so the company has been regularly investing in the latest environmental and safety technologies to protect its staff and production facilities for many years. PCK Raffinerie GmbH keeps Berlin and Brandenburg moving. Nine out of ten cars in the region run on fuel from Schwedt, and every aircraft taking off from Berlin-Tegel airport has kerosene from Schwedt in its tanks.

It is therefore indispensable for the PCK plant to function reliably twenty-four hours a day, and be protected from voltage dips or the worst case of a complete interruption to electrical power supply. PCK relies on the high speed transfer devices of type SUE from ABB to prevent costly failures of the refinery systems. On power failure, SUE ensures continuing supply to the PCK machinery, providing for optimum plant availability.



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PCK's main 6 kV switchgear concept involves a number of double busbar systems, each consisting of two units with a sectionalizer. Each unit is supplied by an incoming feeder. A third feeder is available as a back-up, and can supply either unit. In addition, the units can be connected together under load with a bus tie.

These main switchgear systems are also equipped with the latest generation of high speed transfer devices of type SUE 3000. In the event of a fault, the SUE system can, depending on the network configuration and the defined preselection, automatically switch over to the back-up feeder or couple the busbars of the two units. Apart from automatic transferring in fault conditions, each SUE can also be activated manually for planned switching operations, for example to isolate sections of the plant. Furthermore, a load shedding scenario using PLC technology has also been implemented for PCK.



#### FACTS AND FIGURES

- Uninterruptible power supply for all critical processes at PCK
- Fastest transfer worldwide
- Permanent calculation of network conditions
- Suitable for integration in existing and new systems
- Applications
  - Thermal power plants
  - Chemical and petrochemical plants
  - Industrial plants with sensitive processes



SUE ensures uninterrupted power supply at PCK Raffinerie GmbH – reliable and fault-free for generations.

The optimum, fastest and preferred transfer mode is fast transfer. The SUE 3000 therefore constantly measures and calculates the network conditions and synchronization criteria such as the phase angle, frequency difference and the voltages of the back-up feeder and busbar. If a fault occurs, these data are immediately available and the transfer process can be initiated without delay provided that the plant data are within the set parameters. The SUE 3000 is thus the fastest transfer device on the market. This fastest possible transfer to a back-up network is decisive, as the production processes at PCK are dependent on a continuous, high availability power supply.

In total, there are over 2000 SUE systems, including 867 SUE 3000s since 2004, securing the processes of power plants and industrial applications worldwide. At PCK Raffinerie GmbH, several generations of these devices have been in service and have already proven successful in several event-related transfer operations.

For further information please contact:

#### ABB AG

#### Calor Emag Medium Voltage Products

Oberhausener Straße 33  
 40472 Ratingen, Germany  
 Phone: +49 2102 12-0  
 Fax: +49 2102 12-1777  
 Email: [powertech@de.abb.com](mailto:powertech@de.abb.com)

[www.abb.com/mediumvoltage](http://www.abb.com/mediumvoltage)

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