



Stadtwerke Bernburg upgrade Protection System

Stadtwerke Bernburg GmbH (Bernburg Utility Company) in the state of Saxony-Anhalt supply more than 24,800 customers with electricity, natural gas and district heating – every day, year round. Whether it is SCADA, telecontrol, automation technology or outage management and maintenance: Stadtwerke Bernburg relies on products and solutions from IDS GmbH – and has done so for more than 20 years now.

In 2016, Stadtwerke Bernburg decided to exchange their 24-year old protection system. Bernburg's choice again fell on IDS GmbH, with the objective of implementing a uniform solution ranging from the SCADA system to the protection equipment.

System Description

IDS have installed 21 ACOS 334 protection relays in the Umspannwerk Süd transformer station of Stadtwerke Bernburg. These protection relays are connected to the station automation system with ACOS 750 RTUs via IEC 60850-5-104, and from there to the IDS HIGH-LEIT SCADA system via already existing links.

The installation of the new protection relays also implies a change from definite time-relay overcurrent protection to distance protection. Furthermore, new technological functions are now available to the company, including communication links or the recording of measured values, e.g. for fault analysis.

Apart from considerably more sensitive protection functions and the additional measured values, the new protection devices also provide a good basis for intelligent grid control, thereby enabling the staff at Stadtwerke Bernburg to better analyze, assess and manage their grid.

Furthermore, the new protection devices offer new and better features to fulfil the increasing demands of FNN, VDE or BDEW (German Associations of the Energy Industry) e.g. with regard to automatic frequency load shedding.

Thanks to the software adaptations, an expansion of functions based on the installed hardware can be implemented any time and without much effort.

Challenges

The management of this project was undertaken by the engineering company Ingenieurbüro IBET Henry Lischka, a certified partner of IDS, which was in charge of exchanging the protection equipment and of the entire scope of services, including planning, installation, cabling, commissioning and dismantling of old equipment.

The principal challenge in this project was the exchange of protection device while the system was running, as well as the fact that some of the relevant documentation was already out of date. Then there was the adaptation of protection data: The new protection device parameters had to be calculated on the basis of the available grid data and had to be supplemented in accordance with the extended requirements.

We are pleased to inform that cooperation between Stadtwerke Bernburg, IDS GmbH and IBET GmbH was smooth and without complications. Stadtwerke Bernburg accorded a high priority to this project, which meant that decisions could be rapidly made and quickly and smoothly implemented. After test runs in November 2016, the project was successfully concluded at the end of 2016.