

Optimum security of supply thanks to new unit protection at the Industrial Park Bernburg

Reference – Electrical Solutions

Instrumentation, Controls & Electrical



The Result

- Optimum plant safety and reliability thanks to precise reaction in the event of a fault
- Short installation turnaround times thanks to dependable project management and experience
- Improved availability through state-of-the-art plant technology plus swift and expert services on site

SPPA-E3000 Unit Protection and Synchronization

offers state-of-the-art, top-level protection technology for generators and unit transformers, providing extra safety and reliability. Now also the Bernburg industrial power plant is benefiting from this.

The Plant

As part of the SOLVAY Industrial Park, the Bernburg industrial power plant (IPP) has been supplying the affiliated companies with process steam and electricity since 1995. The IKW comprises two generating units with two gas and one steam turbine. The cogeneration heat supply produces a thermal output of 232 MW. This, combined with the possibility of outside ignition in the waste heat boiler, results in a plant efficiency level of 85 %.

The Task

A stable supply and independence from other energy providers has to be guaranteed for the main consumer – the SOLVAY GmbH. To ensure this for the future, the analog unit protection for one gas turbine was to be replaced by a modern, digital protection device. For this project a reliable partner was sought, whose experience and state-of-the-art technology ensure the shortest possible installation turnaround times and local services after completion of the project.

Our Solution

With SPPA-E3000 Unit Protection and Synchronization it was possible to rely on a state-of-the-art and proven protection concept, which was ideally adapted to the requirements in Bernburg.

The new unit protection system comprises the generator protection and transformer protection for unit and station-service transformers. The project encompasses delivery, assembly, engineering and commissioning of the new

protective devices and dismantling of the old ones.

The solution is based on the high quality SIPROTEC 4 Multifunction Relay. The protection settings were checked with reference to the plant characteristics and the setting parameters determined.

Thanks to the optimized timing of assembly and maintenance, downtimes were very low and the plant was rapidly reconnected to the grid.

In addition the swift and expert assistance provided by the regional service unit for the maintenance and upkeep of the new protective device is ensuring maximum availability.



“As SOLVAY's energy supply depends on us, it was necessary to replace the analog protection concept with a state-of-the-art digital concept. This has enabled us to improve and guarantee the reliability of our power generation activities over the long term, making us a dependable partner for our consumers.”

Dipl.-Ing. (FH) Ulrich Deumlich,
Manager EMSR Power Plant,
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E305_FR_Bernburg-UProt-Syn_e_V1-0
Order no. E50001-G230-A327-X-4A00

Printed in Germany
Dispo 05401, c4bs-Nr. 7465

Printed on elementary chlorine-free
bleached paper.

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