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Continuous production for Sibur Plastic's production workshop



Production lines consume huge amounts of power and rely heavily on continuous processes. It is critical that a constant power supply is available at all stages of the production process. Without this assurance, production output can be at risk and vital resources compromised. ABB has installed a power protection solution that is eliminating voltage dips for Sibur Plastic's workshop, "Styrene" in Russia. This solution is increasing the reliability and continuity of the factory's power supply by 100 percent, and ensuring their resources are protected.

The polystyrene industry is rapidly increasing and is sometimes referred to as "white gold" as it produces approximately €66 billion / USD60 billion annually. Such importance is placed on continuous output to meet the growing demands for raw materials and products of the European, American, and Asian industries.

Sibur Plastic's contribution includes the production of styrene with a capacity of up to 60,000 tons per year. For Sibur Plastic, reliability and continuity of factory's power supply was an important factor, as they had previously experienced poor production due to short voltage dips. With such a dependence on the production of styrene globally, this issue had to be resolved immediately.

How ABB solved the problem

ABB provided four 330 kVA PCS100 Active Voltage Conditioner's (AVCs), which were installed on substations that supplied power to the main workshop, "Styrene". The highly efficient technology of the PCS100 AVC system means that, voltage sags and swells are corrected whilst providing continuous voltage regulation. This enabled the production line to operate seamlessly, even after 15 power quality events (mainly dips with different depths) were reported.

Sibur Plastic's Chief Power Engineer Mr Formin highlighted the performance of the PCS100 AVC, "We were skeptical and had some doubts with the effectiveness of the PCS100 AVC. However, only two months after commissioning, there were 15 power quality events and the production line hasn't felt them at all, thanks to ABB. The production line is now working without any interruptions related to the power quality issues we were often experiencing before."

Securing a future for Sibur Plastic

With ABB's power protection solution in place, Sibur Plastic will continually produce up to 60,000 tons of polystyrene per year. Among this impressive figure, Sibur Plastic will also produce expandable polystyrene with a capacity of up to 11,300 tons per year, separators and foamed plastics with a capacity of 6,380 tons per year. For Sibur, the most important aspect was on time supply to polystyrene manufacturers. This supply led to the production of a wide variety of everyday goods such as, cups and utensils to furniture and bathroom materials. Consumer electronics and durable lightweight packaging of all kinds are also produced. Investing in ABB's technology is allowing Sibur Plastic to increase their production output and minimize waste of resources and materials. This will enable Sibur Plastic to invest in other areas of quality processes and secure future orders with their customer's.

Comparing technologies

Unlike other power protection solutions on the market today, ABB's PCS100 AVC topology is very small. This allows for situations where tight installations are required. Surprisingly, this is a common factor, since many industries today do not have large amounts of floor space. The PCS100 AVC industrial design and integrated bypass means that it is highly reliable and can cope in the harshest conditions. Finally, as the PCS100 AVC draws the additional current required to make up the correction voltage from the utility supply, it requires no energy storage. This leads to lower maintenance costs and a higher efficiency of typically greater than 98 percent. To date, ABB have installed over 381 MVA PCS100 AVCs, and over 800 MVA of PCS100 power protection products for commercial and industrial applications.

To find out more about ABB's power protection solutions:

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