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ABB ensures reliable power for the Siberian Coal Energy Company with UniGear Digital

ABB teamed up with FEEC, the Far Eastern Electrotechnical Company, to ensure reliable power for the Siberian Coal Energy Company (SUEK). ABB delivered a compact eHouse solution based on high-performing UniGear Digital switchgear solution to safeguard the distribution of power and ensure production uptime at SUEK's Vanino bulk terminal in Russia. UniGear Digital is a perfect match offering great flexibility, energy-efficiency and minimized maintenance.

SUEK is one of the world's leading coal mining companies, and it has a long history not only in Russia, but also internationally. The Vanino terminal is located at the gulf of the Pacific Ocean, and it is the key export gateway from Russia to Asia-Pacific markets. Each year 1.5-2 million tonnes of coal are handled at the port, making it Russia's second largest coal port on the Pacific.

To guarantee continued operation at the bulk terminal, where coal is loaded onto the ship, the customer was looking for a secure and reliable power distribution solution to ensure minimized maintenance needs and downtime. As the port operates year-round, and the weather conditions can be harsh, they had very high requirements for a robust eHouse construction to withstand strong, cold winds and salt water. Further, a flexible and compact switchgear solution was sought that would allow fast load changes and remote operation, as the installation was to be located far away from the control room.

ABB provided a flexible, energy-efficient and compact eHouse solution with UniGear Digital. The solution ensures minimized switchgear footprint, as the metering cubicles can be omitted and spare panels can easily be configured for future applications. The UniGear Digital solution is built on the air-insulated medium-voltage switchgear ZS1, state-of-the art sensor technology and Relion® protection relays. The design of UniGear Digital is very robust, with fewer components, which significantly decrease the risk of malfunctions.

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The digital switchgear utilizes current and voltage sensors, which offer higher flexibility for easy load capacity alteration without any downtime, as the only required action is to set new values in the protection relays. Using sensor technology also brings time savings when commissioning and installing the equipment. The eHouse was also delivered completely integrated and pre-tested, to ensure reduced energization and commissioning time on site.

To ensure fast and reliable communication, the solution uses IEC 61850, the global standard for communication in substations, and GOOSE (Generic Object Oriented Substation Event) communication between the equipment. IEC 61850 communication is also used for remote monitoring and control of the substation from the main control room.

ABB (ABBN: SIX Swiss Ex) is a pioneering technology leader in electrification products, robotics and motion, industrial automation and power grids, serving customers in utilities, industry and transport & infrastructure globally. Continuing more than a 125-year history of innovation, ABB today is writing the future of industrial digitalization and driving the Energy and Fourth Industrial Revolutions. ABB operates in more than 100 countries with about 132,000 employees. www.abb.com

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