

ABB to supply breakthrough technology for smart substations in China

Zurich, Switzerland, December 1, 2015: Integrated smart grid-enabling switchgear to support a more efficient, reliable and greener grid

ABB, the leading power and automation group, will install a 363 kilovolts (kV) disconnecting circuit breaker (DCB) with Fiber Optic Current Sensor (FOCS) integrating three substation functions - circuit-breaking, disconnecting and current measurement - in one single component and reducing the space needed for a substation bay by up to 70 percent. It will be the world's first DCB with FOCS application at such a high voltage level.

In the integrated smart grid-enabling switchgear the FOCS replaces the conventional current transformers required for measurement and protection and enables grid automation. This will be the first commercial installation of this technology at this voltage level, which is the backbone voltage level of the grid in Northwest China.

The groundbreaking DCB with FOCS is part of the innovative technology being supplied by ABB for State Grid China Corporation's (SGCC) next-generation smart substations project. This project will utilize state-of-the-art software and power technology to enable remote control, protection, automation, monitoring and diagnostics for these substations, as well as to allow both a reduction in their operating costs and footprint. The resulting smaller footprint minimizes environmental impact. The substations will contribute to a more efficient, flexible and reliable national grid and also build the backbone for the increasing renewable power in China. According to China's National Energy Administration the installed power capacity of China's renewable energy exceeded 400 million Kilowatts, in 2014, accounting for more than 30 percent of the total installed power capacity, making China the largest user of renewable energy. ABB will provide the DCB with FOCS equipment for the smart substation in Fuping, Shanxi province, which will supply power for a rapidly developing industrial area there.

"ABB continues to contribute its state-of-the-art technology to the development of the Chinese power infrastructure," said Bernhard Jucker, head of ABB's Power Products division. "Our equipment supports the development of a stronger, smarter and greener grid and reiterates our focus on leveraging technology as a key differentiating element in ABB's Next Level strategy."

A pioneer in DCB technology, ABB has installed about 1,800 DCBs globally and brings the necessary experience in DCB with FOCS at the voltage level required by SGCC, running a pilot at 420 kilovolts in Sweden since 2010. As well as integrating three substation functions, the innovative technology also provides a digital output of grid parameters for substation and grid automation. The equipment has the capability to be fully integrated into a smart grid based on the latest IEC standards of digital communications in power networks (IEC 61850-9-2LE).

As a result of replacing conventional equipment with smart technology, the footprint of air-insulated switchgear bays in a substation can be significantly reduced with a potential space saving of 70 percent. Furthermore, several tons of equipment can be removed from a high-voltage substation, while substation

safety is enhanced and installation time, design, operation and maintenance costs as well as environmental impact are lowered.

In addition to the DCB with FOCS, ABB will supply its smart medium-voltage switchgear and transformer e-devices, such as innovative self-dehydration breathers, as part of the project, facilitating the Internet of Things, Services and People.

ABB (www.abb.com) is a leader in power and automation technologies that enable utility, industry, and transport and infrastructure customers to improve their performance while lowering environmental impact. The ABB Group of companies operates in roughly 100 countries and employs about 140,000 people.

[For more information please contact:](#)

Technology Media Relations
Reiner Schoenrock
Tel: +41 43317 7111
media.relations@ch.abb.com

ABB Ltd
Affolternstrasse 44
8050 Zurich
Switzerland