

ABB launches world's most powerful underground and subsea power transmission cable system

525 kV voltage sets world record for extruded HVDC cable technology, doubling power flow and extending range to enable greater integration of distant renewables and interconnections

Zurich, Switzerland, August 21, 2014 – ABB, the leading power and automation technology group, has announced a breakthrough in cable technology. It has successfully developed and tested a 525 kilovolt (kV) extruded high-voltage direct current (HVDC) cable system to make renewable energy installations more efficient and cost-effective.

This latest innovation will more than double the power capacity to about 2,600 megawatts (MW) from 1,000 MW. It will also expand the cable's reach to distances of 1,500 kilometers, up from less than 1,000 kilometers, while keeping transmission losses under 5 percent.

The new cable offers a 64 percent increase over 320 kV, currently the highest voltage deployed for this type of technology. The 525kV cable system can be deployed in subsea and underground applications, making it ideal for efficient power delivery through densely populated or environmentally sensitive areas or coastal and open-sea applications.

"This major technology breakthrough will change the feasibility of renewable energy projects and play a defining role in using underground and subsea high voltage cables to integrate renewables over long distances," said Ulrich Spiesshofer, CEO of ABB.

By enabling more power over greater distances with reduced losses, ABB's new 525 kV cable technology offers solutions for countries and utilities seeking to enable their electricity transmission systems to integrate more renewable energy being generated by distant solar and wind installations. [A single pair of 525 kV extruded HVDC cables](#) could for example transmit enough power from giant offshore wind farms in to supply two million households.

The new technology offers savings in capital and operational expenses. It also supports the development of DC grids where ABB removed a key technology hurdle with the development of the hybrid HVDC breaker.

The innovative cable system consists of cables, utilizing a new DC cross-linked polyethylene (XLPE) insulation material developed with Borealis, a recognized industry leader, as well as termination and joints manufactured by ABB.

HVDC cable links are essential components of future sustainable energy systems that will need to transmit vast amounts of electricity over long distances, often across or between countries. ABB is a global leader in high-voltage cable systems with a worldwide installed base across applications including city center infeeds, oil and gas platform power supplies, subsea interconnections and the integration of renewables. ABB has commissioned more than 25 DC cable connections and almost 100 AC cable links around the world.

Press Release



ABB (www.abb.com) is a leader in power and automation technologies that enable utility and industry customers to improve their performance while lowering environmental impact. The ABB Group of companies operates in around 100 countries and employs about 145,000 people.

ABB will present the 525kV extruded HVDC cable system at the Cigré technology symposium in Paris, from August 25-29, 2014.

For help with any technical terms in this release, please go to: www.abb.com/glossary

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