

ABB commissions world record voltage circuit breaker

At 1.2 million volts, a new circuit breaker installed in India is the highest alternating current (AC) voltage breaker in the world and will support the country's ultrahigh voltage grid plans.

Bengaluru, India, Dec. 2, 2014 – ABB, the leading power and automation technology group, has designed, manufactured, installed and commissioned a 1,200-kilovolt (kV) circuit breaker the highest AC voltage level in the world.

Once the 1200 kV ultrahigh-voltage switchgear is fully operational, it will have a switching capacity of 10,400 megawatts - a switch capable of turning 'ON' or 'OFF' the electricity generated by 10 large power plants or the combined average annual electrical load of Switzerland and Denmark, within milliseconds.

The circuit breaker is deployed at the 1,200 kV national test station constructed by Power Grid Corporation of India Limited (PGCIL), India's central transmission utility, at Bina in the central Indian state of Madhya Pradesh.

Alongside the circuit breaker, the state-of-the-art hybrid switchgear solution comprises a gas-insulated disconnecter, current transformers and monitoring and diagnostic equipment. The solution requires only half of the space that would be needed for one with conventional air-insulated designs. The configuration also protects critical components from environmental exposure and makes it more resilient against earthquakes.

India is adding substantial power generation capacity to meet growing demand, which in turn requires an efficient and reliable transmission and distribution infrastructure to deliver the electricity to consumers. Transmitting power at higher voltages increases the amount of electricity that can be transported along a line with significantly lowers transmission losses, and at the same time saves space and reduces environmental impact. These are some of the considerations which have prompted India to develop a 1,200-kV transmission system.

"ABB has a long track record in India and we are pleased to continue to support the country in the development of an efficient and reliable power grid. Ultra high-voltage technologies are especially suitable for large countries such as India where power often has to be transmitted over large distances from generation to load centers in the most efficient way," said Bernhard Jucker, head of ABB's Power Products division.

"PGCIL is fully engaged in developing a robust and integrated national grid along with reliable partners in technology like ABB. This development takes us a step further in the development of our ultra high-voltage transmission network," said R N Nayak, Chairman and Managing Director of PGCIL.

In a power system, switchgear is used to control, protect and isolate electrical equipment to ensure the reliability of the electricity supply. ABB has over 80 years' experience in switching technology and has pioneered several innovations over the years.

ABB (www.abb.com) is a leader in power and automation technologies that enable utility, industry, 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 145,000 people.

For more information please contact:
ABB India Media Relations:
Sanaj Natarajan
Tel: +91 80 22949195
sanaj.natarajan@in.abb.com