

## ABB achieves breakthrough in switchgear technology with eco-efficient insulation gas

**New gas mixture offers alternative to SF<sub>6</sub> and has potential to reduce carbon footprint of GIS by up to 50 percent – technology to be deployed in a Swiss pilot project.**

Zurich, Switzerland, August 19, 2014 – ABB, the leading power and automation technology group, has achieved a significant breakthrough in switchgear technology with the development of a solution that deploys a new insulation gas mixture as a substitute for sulfur hexafluoride (SF<sub>6</sub>).

This alternate gas mixture has similar insulation properties as SF<sub>6</sub> gas now used in switchgear, but can substantially lower environmental impact due to its extremely low global warming potential. ABB's gas-insulated switchgear (GIS) with the new gas mixture has the potential to lower carbon dioxide equivalent emissions by up to 50 percent through the lifecycle of the equipment, compared to its predecessor with the same rating.

"This is a significant achievement and can pave the way for more eco-efficient switchgear in the years ahead," said Bernhard Jucker, Head of ABB's Power Products division. "It will enable our customers to lower environmental impact and is very much in line with ABB's ongoing commitment to technology and innovation to enable power and productivity for a better world."

For decades, SF<sub>6</sub> gas has been used extensively in the electrical industry for dielectric insulation and current interruption due to its physical properties. Pressurized SF<sub>6</sub> gas aids the safe and reliable operation of gas-insulated switchgear because it has a much higher dielectric strength than other insulation media, making it possible to significantly reduce the size of switchgear installations and enable installation in areas where space is at a premium. However, SF<sub>6</sub> is a known greenhouse gas and moreover, its lifecycle management requires careful handling for utility and industrial users. The cost of managing it in a compliant manner can also be substantial, particularly when decommissioning aging substations.

The new technology will be deployed for the first time at a substation located in Oerlikon, Zürich, as a pilot installation for the leading Swiss utility, ewz. In addition to the 170 kilovolt (kV) high-voltage GIS, ABB will also install medium voltage GIS with the new gas mixture.

In a power system, switchgear is used to control, protect and isolate electrical equipment to boost the reliability of the electrical supply. With GIS technology, key components including contacts and conductors are protected with insulating gas. Compactness, reliability and robustness make it a preferred solution in urban areas and other places where space is a constraint or in harsh environmental conditions.

ABB pioneered high-voltage GIS in the mid-1960s and continues to drive its technology and innovation, offering a full range product portfolio with voltage levels from 72.5kV to 1,200kV. As a market leader in high-voltage GIS technology, ABB has a global installed base of more than 23,000 bays. The latest breakthrough will enable further reduction in carbon emissions without compromising efficiency and reliability.

ABB ([www.abb.com](http://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.

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