

Smart Grids: SafePlus for requirements involving future secondary distribution

Hanover, 23 April 2012 – The requirements that substations on the secondary distribution level have to meet are undergoing significant changes. This is particularly true in regard to remote-controllability, automation and monitoring.

At this year's Hanover Fair, ABB will be exhibiting a new, application-driven version of the substation type SafePlus, equipped to cope with changing distribution network sections.

With the increasing need nowadays to integrate regenerative energy from wind power and photovoltaic installations, the concomitant job profiles for medium-voltage substation technology are becoming more sophisticated too.

In many distribution network stations, which were originally planned merely as tapping points for power, the technical requirements concerned are now more complex in nature, with the need to feed in additional regenerative energy.

The load flow reversal in the network distribution stations that may be involved here poses increasingly severe challenges for network operators in terms of ensuring network stability.

With its Smart Grid equipment in medium-voltage technology, ABB is proactively addressing this issue, and has come up with a switchgear (reduced overall height of 1,100 mm) that can be installed even in small distribution network stations.

With control, protection and metering technology all directly integrated in the switchgear, network operators have a possibility for automated control of the distribution network sections. Equipment required for up-to-the-future network topologies, like vacuum circuit-breakers, can also be used in the switchgear.

On its stand at the fair, ABB will be showcasing the substation in a compact design that is already being used by network operators in Europe, so as to provide visitors to the fair with an insight into how these technologies are actually used.

A second switchgear will also showcase an option for network operators to run compact-sized electricity metering. This new switchgear equipment already includes all the current and voltage transformers required for metering. The additional metering panels hitherto required for this task in the distribution network stations can thus be dispensed with. Thanks to the streamlined construction of the current and voltage transformers concerned, the overall dimensions of the substation have been downsized, while at the same time personnel protection has been improved for system internals at compact-sized stations.

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Further information:

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