

Contribution of wind energy plants to the voltage control in high and very high voltage networks

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Abstract

In Germany the large wind parks (WP) are attached to high and very high voltage networks. Despite the high installed wind power, wind parks feed only active power into the network. The necessary reactive power for voltage control is produced up to now beside the network, based measures from conventional power stations.

In this work it is shown, that modern wind energy plants are able to supply reactive power too. Thus, the necessary reactive power for voltage control of the network is available from conventional power stations and WP. Due to the connection of WP to high voltage network, the reactive power -which fed from these WP- can contribute to minimization of the network losses in high and very high voltage networks.

Keywords: wind energy, voltage control, reactive power, network losses