Stable grids for the future

Stornetic installs a flywheel energy storage plant in the open cast mine Inden as part of a large-scale test

Jülich, 12 July 2018 Stornetic has installed an innovative flywheel energy storage system for a large-scale test in the grid territory of RWE Power AG near the open cast mine Inden. The system “DuraStor®250” consisting of 24 flywheel storage machines contributes to the stabilization of the grid of tomorrow in the framework of the funded project “Quirinus”.

Supply reliability even in case of a decentralised power generation

“No matter if private individual or industrial organisation – we all have a major interest in the future stability of our electricity grids”, says Dr. Rainer vor dem Esche, Managing Director of Stornetic. “But if large power plants are taken off the grid in the future and more and more wind turbines and solar plants are installed, the increasing, fluctuating power input will lead to larger instabilities at an increasingly decentralised power supply at the same time. To ensure stable grids against this background, reliable solutions must be developed to achieve frequency stabilisation. With our flywheel storage system, we present a solution to this problem.”

The “DuraStor®” energy storage system consists of flywheels that can be accelerated to a speed of up to 45,000 rotations per minute. In this process, electrical energy is turned into mechanical energy and vice versa. During energy recovery, the motor acts as a generator and generates electrical power by braking the rotor. The decisive factor for the use for a stabilisation of the electricity grid is the low reaction time of the flywheels. Thanks to that, performance fluctuations that occur can be quickly balanced.

The system provided by Stornetic as part of the funded project “Quirinus” is used in the grid territory of RWE Power AG. Its object is to establish a virtual decentralised power plant in the Rhenish region against the background of an increasingly decentralised energy generation to demonstrate how distribution grids can be operated reliably and in a stable manner in the future despite the reduction of large-scale power plants and the complete disappearance of power plants in the long run. For this purpose, the Stornetic plant will be coupled with a 550 kVA cogeneration plant by 2G in hybrid operation mode in the grid segment of the open cast mind Inden to control load changes actively triggered in the RWE grid and to demonstrate the operation of the plant.

Further information on the Quirinus Project can be found at www.quirinus-projekt.de

STORNETIC designs, manufactures and distributes energy storage systems. Using the energy storage system on flywheel basis, customers can transform electrical energy into rotational energy and store it.

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