

Nexans designs the most powerful component for Superconducting Current Limiters world-wide

Paris, September 10, 2003 - The Superconducting Fault Current Limiter (FCL) is a new appliance for the power engineering sector. FCL will considerably improve the network resistance to short circuit currents. This is an important gain in terms of quality for the energy supply, in particular when taking into account factors like the increasing complexity resulting from deregulation and the integration of renewable sources such as wind and solar energy.



When existing networks are extended, the capacity of the installed protective equipment is often exceeded by the additional fault power. In such cases, the use of a FCL unit can help to reduce costs for the infrastructure or even avoid the installation of new substations. The innovative appliance could also be of outstanding relevance for projects like the modernization of American power networks.



The core of the FCL, i.e. the superconducting components, were designed and built by Nexans in Hürth (Germany), within the framework of an integrated project sponsored by the German Federal Department of Education and Science (BMBF). The superconducting components are tubular parts based on a ceramic compound of Bi (Bismuth), Sr (Strontium), Ca (Calcium) and Cu (Copper). The final components are cut into a double spiral providing a long active length with a compact design.

At the laboratories of the FGH (Research Association for High Voltage Technologies) in Mannheim/Germany and the FZK (Research Center in Karlsruhe/Germany), the superconducting components of Nexans were submitted to tests with varying requirements. They were e.g. exposed to short circuit currents up to 18,000 A and to an artificial lightning impulse of 75,000 V. All tests proved the effective current limiting capability of the device without causing any defect to the superconductor. Nine components, connected in series, were capable of switching a total power of 1.2 MVA.

Further to these successful tests, Nexans is now working on the 10 MVA demonstrator for the 10 kV network level scheduled to be completed by the end of the year and intended to be tested under field conditions by the German energy operator RWE in the German network.

About Nexans

Nexans is the worldwide leader in the cable industry. The Group brings an extensive range of advanced copper and optical fiber cable solutions to the infrastructure, industry and building markets. Nexans cables and cabling systems can be found in every area of people's lives, from telecommunications and energy networks, to aeronautics, aerospace, automobile, railways, building, petrochemical, medical applications, etc. With an industrial presence in 28 countries and commercial activities in 65 countries, Nexans employs 17,150 people and had sales in 2002 of euros 4.3 billion. Nexans is listed on the Paris stock exchange. More information on www.nexans.com.

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