Press release

Nexans coordinates the ECCOFLOW project for superconducting fault current limiter (SFCL) with new generation tapes

This EC funded project aims to deliver an innovative, multi-purpose SFCL dedicated to enhance power grids performances

Paris, April 15, 2011 – In the year of the double anniversary of superconductivity – 100 years since the finding of the phenomenon and 25 years after the discovery of the highly attractive High Temperature Superconductor (HTS) materials – Nexans, a worldwide leading expert in the cable industry, continues the development of HTS systems for improving performance and efficiency of energy grids.

Nexans and 13 European partners have reached a significant milestone in the progress of the EC funded ECCOFLOW project to create an innovative and multi-purpose superconducting fault current limiter (SFCL) suitable for use in a range of utility applications. The design and development phase of the four year project is complete and manufacturing of the SFCL will commence soon.

Fault currents, such as those created during short-circuits, are a significant issue for electrical networks, and grid equipment must be suitably protected against them to ensure safety, reliability, and availability. Thanks to their almost instantaneous response to fault currents, SFCLs can prevent the damaging overloading of switchgear and other power network components that can occur during short-circuits. This might be very important also in the light of the increase in distributed generation.

Assembly and installation of the ECCOFLOW SFCL

The ECCOFLOW SFCL will be assembled in 2011 at the Nexans facility based in Hürth (Germany) and installed for a test programme of about six months at an Endesa substation in Palma de Mallorca (Spain). The new device, using second-generation HTS tapes for the current limiting components, will be the first multi-purpose unit suitable for applications at different places in the European grid. On completion of the programme in Mallorca, a long-term test is scheduled in the Vychodoslovenska Energetika a.s. power network in Košice (Slovakia), where the SFCL will work within a transformer feeder.

Objective of the ECCOFLOW project

The objective of the ECCOFLOW project is to design, build and test within the European grid a SFCL based on second generation (2G) HTS tapes which are now becoming available with suitable performances. Compared to previous HTS materials, 2 G tapes have higher current densities enabling more compact devices and provide lower operating costs. The SFCL is highly attractive for network operators as it provides a method of dealing with the increasing incidence and severity of fault currents as well as providing innovative planning of electricity grids, including smart grids.

Project coordination handled by Nexans

ECCOFLOW, which started in 2010, is being coordinated by Nexans and regroups 13 other partners: Endesa (Spain); VSE (Slovakia); RWE (Germany); Vattenfall (Sweden); a2a (Italy); Air Liquide (France), Centre National de la Recherche Scientifique (France), Consejo Superior de Investigaciones Cientificas (Spain), Ecole Polytechnique Fédérale de Lausanne (Switzerland), Institute of Electrical Engineering of the Slovak Academy of Sciences (Slovakia), Karlsruher Institut für Technologie (Germany), Fundacion LABEIN-Tecnalia (Spain) and Ricerca sul Sistema Energetico (Italy).

Katrin de Tessières, ECCOFLOW Project Coordinator from Nexans highlights the commitment of major utilities in this project: *"This large number of electric utilities among the project partners demonstrates the high interest of end users for SFCLs."*

Nexans' expertise with SFCLs

Nexans has a long term expertise in developing SFCL components and provided the first commercial SFCL device worldwide for a pilot installation in the UK, at a medium voltage (11 kV) substation in Lancashire. A second device for the UK market has just been completed and will help optimise the performance and safety of a local power network in the Liverpool area. Nexans also commissioned in 2009 the world's first HTS device ever installed at a power plant. This commercial SFCL system was tailored to provide short-circuit protection for the internal medium voltage power supply that feeds coal mills and crushers in the Boxberg brown coal power plant of Vattenfall Europe Generation AG in Saxony, Germany. A field test was successfully completed end of 2010. With the ECCOFLOW device Nexans is completing its portfolio of SFCL devices to improve safety and efficiency of distribution networks and industrial grids.

"The protection systems of power grids are becoming increasingly complex and demanding due to the need to integrate a variety of power generation sources at different points within the network. SFCLs offer interesting possibilities to optimize the reliability, availability, and also the efficiency of these new grids" says Joachim Bock, Nexans Sales and Market Development Director for HTS systems. *"What is particularly exciting about the ECCOFLOW project is that rather than having to provide a SFCL tailored to suit each network, we are creating a new generation multi-purpose SFCL with the flexibility to suit a variety of applications, and then taking this device from prototype through to the industrial pre-production stage."*

About Nexans

With energy as the basis of its development, Nexans, worldwide leading expert in the cable industry, offers an extensive range of cables and cabling systems. The Group is a global player in the infrastructure, industry, building and Local Area Network markets. Nexans addresses a series of market segments: from energy, transport and telecom networks to shipbuilding, oil and gas, nuclear power, automotives, electronics, aeronautics, material handling and automation.

Nexans is a responsible industrial company that regards sustainable development as integral to its global and operational strategy. Continuous innovation in products, solutions and services, employee development and engagement, and the introduction of safe industrial processes with limited environmental impact are among the key initiatives that place Nexans at the core of a sustainable future. With an industrial presence in 40 countries and commercial activities worldwide, Nexans employs 23,700 people and had sales in 2010 of more than 6 billion euros. Nexans is listed on NYSE Euronext Paris, compartment A. For more information, please consult www.nexans.com

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