

## **ECCOFLOW: The New European Project on Superconducting Current Fault Limiter**

February 24, 2010 (HE41). The European Commission (EC) authorized a new European project within the “7<sup>th</sup> Framework Programme (FP7)” under the title “Development and field test of an efficient YBCO Coated Conductor based Fault Current Limiter for Operation in Electricity Networks”. The acronym of this new project is “ECCOFLOW”, the EC reference number is 241285. This collaborative project started on January 2, 2010 and should run for 48 months (4 years). The EC funding amounts to EUR 2.7 millions, the actual estimated project cost is EUR 4.64 millions. Fourteen European groups from industry, research institutes and academia participate (in seven countries). The list of all these institutions can be found at the official FP7 website:

[http://cordis.europa.eu/fetch?CALLER=FP7\\_PROJ\\_EN&ACTION=D&DOC=3&CAT=PROJ&QUERY=0125f88bbb68:7528:6e2582ff&RCN=93468](http://cordis.europa.eu/fetch?CALLER=FP7_PROJ_EN&ACTION=D&DOC=3&CAT=PROJ&QUERY=0125f88bbb68:7528:6e2582ff&RCN=93468).

The project will be coordinated by Nexans France S.A.S., the Contact Person is Ms. Katrin de Tessieres, Tel: +33-73238367, Fax: +33-73238633, e-mail: [Contact](#). Below we reproduce the program description posted at the FP7 website:

“The project aims at developing a unique device for electricity networks: A superconducting fault current limiter (SFCL) based on coated conductor YBCO tape (cc-tape) or 2nd Generation HTS tape. The general trend in Europe to a higher meshing of distribution networks and the rapid growing integration of renewable energy sources leads to an increase of the fault current level by every new installation.

As substations ratings are coming to their limits network operators have to either decline additional installations to their grids or to upgrade if not rebuild complete substations. The SFCL provides a solution to deal with the increasing incidence and level of fault currents and will contribute to improving the performance, stability and efficiency of electricity grids. It can be applied as a new tool for grid operation and will enhance the flexibility for further grid planning. SFCL are considered to be the most attractive superconducting devices as they offer unparalleled features compared to conventional techniques such as automatic ultrafast and effective current limitation, no external trigger (fail safe), rapid self recovery and negligible impedance during operation. In contrast to conventional solutions resistive type SFCL are also suitable for higher voltage levels.

So far developed SFCL prototypes based on BSCCO material are exhibiting significant AC-losses at higher currents which oppose their commercial introduction. Today, the availability of cc-tape in longer lengths at reasonable cost makes a commercial breakthrough of FCL possible with unique features such as compactness, short recovery-time, low AC-losses. Leading industrial and academic institutions from Europe have teamed up to design, build, and test the first full 3-phase cc-tape FCL worldwide. The device will be long term tested or even permanently installed in the medium voltage grid.”

We hope to soon be able to highlight the actual project’s plans and activities.