

PROPOSAL FOR CREATION OF A NEW WG

WG C6.19	Name of Convenor : F. Pilo (Italy)
Title of the Group: Planning and optimization methods for active distribution systems	
<p>Scope, deliverables and proposed time schedule of the Group</p> <p>Background:</p> <p>The distribution system is quickly reaching the critical point whereby new distributed generation and renewable energy sources cannot be integrated without massive investments. There is a general consensus on the fact that active distribution systems and smartgrids have the potential of integrating more DER (e.g. generators, responsive loads, and storage devices) at fewer costs, opening business opportunities without burden the environment. Several advanced academic and industrial research projects are working on innovative distribution systems, setting up demonstration facilities and real world test systems to prove both feasibility and benefits of the novel distribution paradigm. Researches on this subject are also promoted by the EUTP SMARTGRIDS.</p> <p>The transition to active distribution is going to be a serious concern to planners and specialised planning methodologies to help finding out optimal or compromise expansion plans will be useful as demonstrated by the increasing attention on planning for active distribution in the CIRED 2009. Methodologies, algorithms, computer tools for both green and brown field planning should be deeply revisited to take into account the increased level of uncertainty and complexity.</p> <p>In passive distribution systems distribution planning aims at solving operation issues (e.g., fit and forget) at the planning stage. Planning for active distribution should incorporate operation and control to capture the economic worth of smartgrids.</p> <p>The WG will work jointly with the CIRED S5 “System development” that is chaired by F. Pilo. Preliminary contacts with the S5 Advisory Group, the EU-JRC, Euroelectric, ERSE (former CESIRICERCA), EDF, ENEL, INESC, University of Edinburgh, SIEMENS, BC-Hydro, Hydro-Quebec, EPRI, etc. confirmed the interest on the WG.</p> <p>Scope:</p> <p>The WG aims at addressing the following issues:</p> <ul style="list-style-type: none"> • Survey on the state of the art on planning for active distribution systems • Requirements of planning methodologies (a questionnaire will be sent to distribution companies and universities) • Identification of short, medium, and long term models for active distribution planning (e.g., technical models, economic and market models) • Reliability models of active distribution systems • Algorithms for active distribution system expansion/upgrade planning suitable to different scenarios and regulatory frameworks. Methods and tools allow optimal DES (distributed energy storage) and DG sizing and siting as well design and integration of microgrids and multi-microgrids <p>Deliverables: <i>Technical brochure on “Planning for active distribution systems” and summary on ELECTRA</i></p> <p>Time Schedule : Start January 2010 Final Report: June 2012</p>	
Comments from Chairmen of SCs concerned :	
Approval by Technical Committee Chairman : Klaus Fröhlich Date : 02/01/2010	