



Final 14 July, 2006

Study Committee No : C3

### WORKING GROUP FORM

<b>Group No : WG C3.05</b>	<b>Name of Convener : Thomas Smolka (GE)</b>
<b>TITLE of the Group : ENVIRONMENTAL IMPACT OF DISPERSED GENERATION</b> [Joint WG with C6]	
<b>Background:</b> <p>Dispersed Generation (DG), based both on fossil sources and on renewables, is expected to experience a large penetration in Power Systems but the issue of its impact on the environment is still open</p> <p>The assessment of the DG environmental impact should take into account different aspects, e.g.:</p> <ul style="list-style-type: none"><li>- fossil based DG produces pollutant emissions in densely populated areas, while centralised power stations can be located away from cities and other residential zones;</li><li>- fossil based DG needs “cleaner” fuels than centralised generation, because it is more difficult to apply sophisticated flue gases treatment systems;</li><li>- DG brings power generation closer to consumption points, with potential reduction of transmission and distribution losses and needs of network reinforcements;</li><li>- integration of DG with combined generation of heat and power (CHP) allows its diffusion within tertiary and residential customers, i.e., near load centres, leading to higher energy efficiency levels (with environmental benefits);</li><li>- DG fits very well with renewable energy sources (RES), with environmental benefits (reduction of pollutant emissions, liquid discharges, wastes...), but bringing problems like visual impact, land occupation, noise...</li></ul> <p>Need is felt to define a global procedure and relevant methods for environmental impact evaluation of DG, tackling - among others - the following questions:</p> <ol style="list-style-type: none"><li>a) which approaches to choose for dealing with different DG technologies;</li><li>b) how to choose the impact area (i.e. the relevant area to account for all the adverse and favourable impacts) and which impact factors to consider. Attention should be devoted to both “local” and “global” impacts;</li><li>c) how to take into account “positive” impacts (e.g. loss reduction, co-generated heat ...);</li><li>d) need to extend the analysis to the whole lifecycle of the implied technologies;</li><li>e) if and how to account for “non environmental” factors (e.g. organisation, legislation, ...);</li><li>f) how to account for economic aspects.</li></ol>	
<b>Scope :</b> <p>The aim of the WG is to define procedures and methods to evaluate the environmental impact of DG. The WG shall proceed by developing the steps that follow:</p> <ul style="list-style-type: none"><li>• Definition of DG systems and technologies to be considered</li><li>• Collection and analysis of practical experience (from technical literatures and/or “case studies”) about environmental impact assessment of DG and of legislation and technical standards in various countries.</li><li>• Synthesis and benchmarking of standards and experiences. Identification of critical issues.</li><li>• Definition of criteria and proposal of standardised methodologies.</li></ul>	



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- Dissemination of conclusions (Target Groups: National and Local Authorities and Agencies, Regulators, Manufacturers, Electric Utilities)

**Deliverables:**

Technical brochure on the proposed evaluation procedure and summary to be published on ELECTRA

**Time Schedule :**

**Launch of WG:** September 2006

**Final Report:** August 2009

**Comments from Chairmen of SCs concerned :** Approved

**Approval by Technical Committee Chairman :** Aldo Bolza  
July 19,2006

**Date :**