



STUDY COMMITTEE B2

Terms of reference of Working Group WG B2.23- 2008-2011

Working Group title: Geotechnical and structural design of the foundations of HV & UHV Lines, application to the updating to the refurbishment and upgrading guide

Convenor:
Neil Cuer (UK)

Secretary:
Eddie O'Connor

Needs of Target Groups :

- < To determine the theoretical design strength of the foundations;
- < To evaluate the actual in-situ strength of the foundations and its response characteristics under static and dynamic loads
- < To establish foundation installation criteria and methods of refurbishing and upgrading existing foundations.

Terms of reference:

The terms of reference of WGB2.23 include :

- 1- A theoretical approach of both static and dynamic loading arising from climatic loading, short circuit, broken conductors,.. of the mechanism of load transfer, the aim of which is to recommend partial strength factors or design models ;
- 2- the effect of potential geotechnical influences both natural and man-made, e.g. land slips, faults, soil liquefaction, mining activities, etc., on the routing of an OHL, how these influences may be identified and possible means of alleviation, if it is not possible to re-route the OHL. In addition, consideration will also be given to providing guidance on how to undertake a geotechnical investigation, if it is apparent that these features are affecting the reliability of an existing OHL route. The aim of this study is to provide a guidance report, indicating procedures for desk studies and intrusive inspections, etc.
- 3- an up date of the procedures for the refurbishment and upgrading of transmission line support foundations outlined in Cigre Technical Brochure No. 141 (Refurbishment and Upgrading of Foundations) with actual techniques used in practice and theoretical studies described before. Based on these studies, it is intended to publish an update to the brochure, together with sample case histories of actual refurbishment and upgrading schemes.

It covers all types of Lines from HV to UHV Lines. But if needed, specific criteria will be given to UHV Lines.

Specific Actions are :-

- 1. Static and dynamic loading on foundations : mechanism of the load transfer, response of individual footing compared to overall support foundation, recommendations regarding partial strength factors and design models.**
Target – 2010
- 2. Technical Brochure – Geotechnical consequences of the support location in respect of foundation design**
Target – 2011
- 3. Technical brochure – Foundation Refurbishment and Upgrading including an update of WG07 Brochure 141 edited in 1999**
Target – 2011

Links with other SCs:

SCs :- None

WGs :- AGB2.05 , AGB2.07

IEC :- TC11

Approval by Technical Committee Chairman: Klaus Fröhlich Date: 9 April 2008