



### **The Strategic Role of Power Grids in the implementation of a European Energy Policy**

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The objective of this paper is to underline the strategic role of the Power Grids in the new context of the European Energy Policy. The development of the European Power Grid should be considered in mainly two directions : a European super grid with a strong reinforcement of interconnections between EU member states and with neighbouring regions and an implementation of smarter grids mainly in lower voltage in relation with the connection of large quantity of decentralised renewable and intermittent power generation.

### > **REPORT - WG C4.406**

#### **The Response of Grounding Electrodes to Lightning Currents**

This document considers fundamental aspects regarding the behaviour of grounding electrodes when they are subjected to lightning currents. A distributed circuit approach is used to explain some basic aspects. Results provided by the application of an electromagnetic model are discussed to comment on relevant practical questions related to the grounding response. Full report available on [e-CIGRE](#).

### > **REPORT - WG C6.11**

#### **Active Distribution Networks: general features, present status of implementation and operation practices**

This paper presents the progress of WG C6.11: development and operation of active distribution networks (ADNs). It gives the definition of ADNs, as well as the results of a global survey involving 27 utilities and research bodies worldwide: general features of ADNs, current status of their implementation, operating practices, and limits/barriers are discussed.

### > **RESUME - BT N° 392 - GT A1.10**

#### **Analyse des pannes de Groupes Hydro-électriques**

Une panne importante d'un groupe hydraulique est toujours un contretemps qui coûte temps et argent. Pour prévenir ces

pannes ou en réduire les conséquences, il importe d'identifier les pannes les plus courantes, les dommages associés et les causes à l'origine. A partir de statistiques de cas réels, la BT analyse ces aspects, en intégrant l'apport des systèmes de monitoring.

### > **SUMMARY - TB No 392 - WG A1.10** **Survey of Hydrogenerator Failures**

A large-scale failure in Hydro-generators is always a setback that costs both time and money. In order to prevent this or to reduce the consequences, the first step is to identify the most common failures, the extent of damage and the root causes. Based on statistical information of real cases, the TB analyzes those aspects, including the aid of monitoring systems.

### > **RESUME - BT N° 393 - GT A2.24** **Performances Thermiques des Transformateurs**

Les conditions économiques modernes font qu'on utilise communément les transformateurs de puissance au-delà des valeurs nominales. Le GT A2.24 a été créé pour analyser comment les connaissances actuelles, les moyens de diagnostic, les capteurs à fibre optique et la DGA peuvent être utilisés pour obtenir un meilleur comportement thermique et permettre une meilleure compréhension des possibilités de charge des transformateurs.

### > **SUMMARY - TB No 393 - WG A2.24** **Thermal Performance of Transformers**

The modern economics situation has made loading of large transformers beyond the name plate rating relatively common. WG A2.24 was inaugurated to review how present knowledge, diagnostic tools, fibre optic sensors and DGA can be utilized to improve the thermal design and assure better understanding of the loading capabilities of transformers.

### > **RESUME - BT N° 394 - CE A3** **L'Etat de l'Art des Transformateurs de Mesure**

Le GT lancé par le CE 12 (Transformateurs) au milieu des années 90, et transféré en 2002 au CE A3, a terminé la compilation de cet état de l'art des transformateurs de mesure depuis quelques années, mais sans publier un rapport final. Il a été jugé que les éléments rassemblés justifiaient une publication, sous forme d'une BT.

### > **SUMMARY - TB No 394 - SC A3** **State of the Art of Instrument Transformers**

The WG launched by SC12 (Transformers) in the mid-90s, and later transferred in 2002 to SC A3, has completed this state of the art of Instrument Transformers at the start of the 21st century a few years ago, without publishing a formal report. It has been felt that the results, of significant value for designers and users, deserve publication as a TB.

> **RESUME - BT N° 395 - GT B2.08**  
**Recherches sur les interactions structurelles entre les pylônes des lignes de transport et les fondations**

La BT décrit les investigations des GT B2.08 et B2.07 sur les interactions structurelles entre les pylônes des lignes et leurs fondations. L'objectif principal est d'analyser l'impact des mouvements des fondations en terme de contraintes sur les barres. En utilisant un dispositif spécialement conçu pour appliquer des déplacements verticaux haut/bas, on a pu comparer les prévisions des calculs et les résultats réels.

> **SUMMARY - TB No 395 - WG B2.08**  
**Investigation on the Structural Interaction between Transmission Line Towers and Foundations**

This paper reports the investigations carried out by WG.07 and B2.08 on the structural interaction between line towers and foundations. The main purpose was to analyze the impact of foundation movements on member forces. Using appropriate device, especially designed for applying "up and down" displacements, numerical simulations are compared with results in real scale tests.

> **RESUME - BT N° 396 - GT B2.08**  
**Les Grandes Traversées de Lignes Aériennes**

Les grandes traversées aériennes sont des réalisations à la limite des règles de l'art car elles nécessitent de longues portées et/ou des supports élevés et il n'existe pas de normes appropriées; les informations concernant des traversées déjà construites peuvent donc aider à prendre les bonnes décisions. Les données rassemblées dans la TB comprennent portées maximales, hauteurs et masses des pylônes, types de conducteurs, chaînes d'isolateurs et les autres informations utiles.

> **SUMMARY - TB No 396 - WG B2.08:**  
**Large Overhead lines (OVHL) crossings**

Large OVHL crossings are designs at the limit of the "state-of-the-art", as they demand long spans and/or tall supports and standards do not cover their design; therefore information about crossing projects already constructed could assist in making the right decisions. The data collected in the TB record spans, tower heights and weights, conductor types, insulator strings and other useful information.