



UCTE NEWS

30 November 2006

Contact: Gerard Maas

g.maas@tennet.org

UCTE releases detailed Interim Report on the disturbances of 4 November – sequence of events, root causes and critical factors identified

The events in the evening of 4 November 2006 are the most severe disturbance in the history of UCTE as far as the number of involved TSOs (Transmission System Operators) and the amplitude of the registered frequency deviation are concerned. However, the decentralized responsibilities of UCTE member TSOs demonstrated their efficiency avoiding a blackout on the entire European continent. UCTE is committed to assure that the incident is clearly investigated to improve the security standards. Therefore an investigation committee was implemented immediately after the incident.

On 4 November 2006 the triggering event started at around 22:10 hours. A number of high voltage lines in northern Germany tripped off due to the correct reaction of automatic protection devices after an increase of load over a very short period of time. Consequently the UCTE grid – covering 23 countries across Europe - was divided into three areas (West, North-East and South-East). This resulted in significant power imbalances in each area. The power imbalance in the Western area induced a severe frequency drop that caused an interruption of supply for more than 15 million European households.

In both under-frequency areas (West and South East), sufficient generation reserves and load shedding allowed restoring the normal frequency rapidly. In the over-frequency area (North East), the lack of control over generation units contributed to the deterioration of system conditions in this area (long lasting over-frequency with severe transmission lines overloading).

Generally, the uncoordinated operation of generation units, mainly wind and combined-heat-and-power connected to distribution grids during the disturbance complicated the process of re-establishing normal system conditions.

However, the decentralized spread of responsibilities among TSOs demonstrated its efficiency: appropriate measures were taken against a further deterioration of the situation and thus avoided a blackout on the entire European continent. The full reconnection of the power grids was completed within 38 minutes after the separation into three islands. The situation in all European countries went back to normal in less than 2 hours.

In its function for the coordination UCTE carries out an investigation on the November 04 incident in order to assure an efficient and secure operation of the interconnected electrical »power highways« in the future.

The Interim Report (see <http://www.ucte.org>) identifies so far two root causes and five critical factors.

Root causes:

- Non fulfilment of the N-1 Criterion
- Inappropriate inter-TSO coordination during this event

Critical factors:

- Generators related issues; TSO access to real time information on generation
- Range of action available to dispatchers for handling grid congestions
- TSO/DSO (Distribution System Operators) co-ordination in the context of defence and restoration plans
- Co-ordination of resynchronization procedures during the event
- Enhancement of training of dispatchers

The Investigation Committee will provide in the Final Report a more comprehensive analysis of the sequence of events and recommendations for further improvement of procedures at UCTE and individual TSO level as well as of specific UCTE security standards.

Profile:

The Union for the Co-ordination of Transmission of Electricity (UCTE) coordinates the interests of transmission system operators in 23 European countries. Their common objective is to guarantee the security of operation of the interconnected power system. 50 years of joint activities laid the basis for a leading position in the world, which the UCTE holds in the quality of synchronous operation of interconnected power systems. Through the networks of the UCTE 450 million people are supplied with electric energy and annual electricity consumption totals approx. 2500 TWh. Close co-operation of member companies is imperative to make the best possible use of benefits offered by interconnected operation. For this reason, the UCTE has developed a number of rules and recommendations that constitute the basis for the smooth operation of the power system. Only the consistent maintenance of the high demands on quality will permit in the future to set standards in terms of security and reliability as in the past.