

UCTE LIFE

EDITORIAL

UCTE reported to the 13th Florence Regulatory Forum on network operational standards

The thirteenth meeting of the European Electricity Regulatory Forum took place in Florence on 7-8 September 2006, with the participation of representatives of the Commission, the European Parliament, Regulators, Member States and all interested parties. Representatives of the regulatory authorities of acceding and negotiating countries also participated in the meeting of the Forum, with a view to assisting these countries in preparing for full participation in the internal electricity market. In addition, representatives from Switzerland and Norway were also present.

The Finnish Presidency of the Council, in its introduction, underlined the need for work to go on with the further development of the internal market. They emphasized the need to confront any lack of confidence in the electricity market and to move ahead rapidly during the Finnish and German Presidency to develop innovative solutions to any remaining problems.

UCTE presented the progress achieved in 2006 in developing the Operation Handbook and a new trial Compliance Monitoring and Enforcement Program (CMEP) to be run on a regular basis from 2007, separated from the standard-setting procedure. Since 2006, these two instruments have also been embedded in a legal framework (MLA) ensuring inter-TSO enforceability. UCTE called upon regulators to further support this action especially when extending enforceability to all grid users. The Commission noted that operational standards need to be developed in all European systems and be consistent with the regulation. The possibility for the Commission to adopt guidelines on security and reliability was also noted.



Due to a discrepancy between wind generation development and yet unsolved consequences on transmission systems, TSOs launched an European Wind Integration Study that will deliver proposals for a generic and harmonized European approach to wind energy. The study will look into operational aspects including grid connection codes, market organizational models and procedures, regulatory and/or market-related requirements as well as common public interest issues.

The Forum congratulated UCTE on its simultaneous action on major system development cases (IPS/UPS, Ukraine, Turkey) in line with the objectives set out in the Green Paper related to external relations. The Forum acknowledged the importance of the role of UCTE as reliability watchdog also in the context of system developments. UCTE recalled that beyond this UCTE role consistent actions need to be taken by stakeholders towards the assessment of compatibility and reciprocity in markets and environment conditions, prior to any decision on project implementation.

MEMBER NEWS

UCTE AGENDA

UCTE Steering Committees	<i>November 23, 2006 in Spain January 18, 2007 in Switzerland March 22, 2007 in Hungary</i>
Assembly	<i>May 10, 2007 in Germany</i>
Common WG meetings	<i>September 7, 2007 in Bosnia-Herzegovina</i>

REN



Increasing the reliability of the Portuguese grid

The Batalha substation, in the central part of Portugal, has received the 400 kV voltage level. Feed by two 400 kV lines and equipped with a 170 MVA 400/60 kV transformer, the short term objectives are to follow the normal growth of the demand, relieving the already existing 220/60 kV transformers and 220 kV lines, and to allow the connection of new generation, including important wind farms. This substation is also an alternative node of the 400 kV network in this region in diversifying the connection of the lines. Due to land limitations and urban surroundings, new technical solutions have been adopted. For the first case, a mixed solution, air and SF6 insulated equipment, is implemented in order to shorten the length of the bays. For the second, the transformer has been encapsulated (see picture), with the radiators standing apart, to achieve a noise level below 41 dB(A). The total cost of this up rate is close to 14 MioEUR.

Liberalization of the electricity market totally achieved in Portugal

Since last September, the 4th, all the low voltage consumers are free to choose their commercializer of electricity. The liberalization process in Portugal started in 1999 with the big industrial consumers and, step by step, achieved, at the end of 2005, 21% of the consumption of the mainland Portugal, with thirteen thousands of clients, including the a part of the low voltage ones with a contract power greater than 41.4 kW. The total amount of consumers is about six million.

In the way to fully implementation of MIBEL

On July, the 3th, took place the operational kick off of the derivative market, within the framework of the regional Iberian Electricity Market (MIBEL). This market is operated from Portugal, through two companies, the OMIP and OMIClear, and covers both Iberian countries, Portugal and Spain. They are responsible for the market operation and for the clearing, settlement and central counterparty of the exchanges and OTC operations performed in this market, which is, as time being, for futures, of a base load type, and physical or financial delivery.



REE



The Second Circuit of the Submarine 400 kV Electrical Interconnection between Spain and Morocco

REE (Spain) and ONE (Morocco) launched a project in 2001 calling for the reinforcement of the existing line, commissioned in 1997, by the design and construction of a new submarine link which runs in parallel with the existing one. The direction of power flow through the first circuit has been mainly from Spain to Morocco since the line was commissioned. However, the contribution in terms of network stability and security of the energy that has flowed from Morocco to Spain has also been of great value.

This second circuit provides the additional exchange capacity needed but also contributes substantially to the increase in system security and operation performances. The interconnector is designed to transmit 700 MW with a thermal overload capability to allow a 900MW load for 20 minutes.



The new transmission line was commissioned in June 2006 after it had successfully completed all specified functional and operational tests.

The Straights of Gibraltar is a site of great environmental value, representing the link between two continents and two cultures. It is becoming one of the most important bird watching locations in the world, being the main migration corridor between Europe and Africa. Some special areas of the Straights are protected by EU Directives as Sites of Community Interest within the Natura 2000 network. The two utilities have undertaken, within their respective countries, a large number of actions to promote community participation in the preparation, discussion and final approval of Environmental Impact Assessment (EIA) reports.

MEMBER NEWS

VE Transmission



Vattenfall Europe Transmission invests in network security of the European interconnected power system

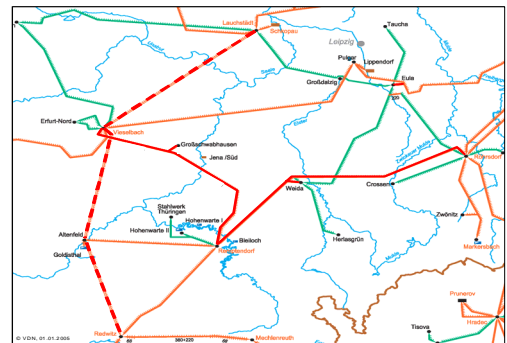
In Thuringia, near the Czech border, the circuits of the overhead lines from Vieselbach via Großschwabhausen to Remptendorf and from Röhrsdorf via Weida to Remptendorf, previously operated at 220 kV, have been upgraded to 380 kV after almost two years of construction. Thus, these double-circuit lines are completely operated at 380 kV. At the same time, new major transformers were put into service in Großschwabhausen, Weida and Remptendorf.



Through this network reinforcement, carried out as a first step in this region, Vattenfall Europe Transmission does not only stabilize the local electricity supply of the network operators and industry located there, but also makes an essential contribution to the maintenance of electric system security in the middle of Europe. This north-south network reinforcement, the necessity of which was also underlined in the dena study, is an important prerequisite for meeting both national and European requirements, such as the acceptance of feed-in and transport of renewables-based energy and Europe-wide electricity trading without any restrictions, whenever possible.

Further steps towards strengthening of the transport capacity in a north-south direction are in this context the scheduled construction of a new 380 kV link from the Halle region (Vattenfall Europe Transmission) via the Thuringian Forest to the Schweinfurt area (E.ON Netz) by including measures of upgrading the 380 kV network in northern Franconia (region in the north of Bavaria) carried out by E.ON Netz. These network reinforcements, the first construction stages of which are currently realized by Vattenfall Europe Transmission in Saxony-Anhalt (German Federal State), are required to securely transport the forecasted high share of wind power generation.

The requirement defined by German law, according to which the network must be immediately extended for the transport of renewables-based energy, is thus fully satisfied in due time.



BKW



Greater security of supply through additional grid coupling transformer at Bassecourt substation (BKW)

On 5 July 2005, BKW FMB Energy Ltd successfully commissioned a 380/132 kV grid coupling transformer with linear and phase-shifting regulation capability and an installed capacity of 400 MVA. Located in the Swiss Jura region near the French border, the Bassecourt substation is incorporated in the 380 kV transport grid of France and Switzerland with two lines each. In addition, for more than 25 years Bassecourt has had two 380/220 kV-400 MVA grid coupling transformers which connect the European 380 kV grid with the Swiss national 220 kV grid. The region is supplied from the 220 kV busbar via 220/132 kV and 220/50 kV transformers. This linear and phase-shifting regulation of grid coupling transformers offers the following key advantages for the transmission-distribution grid:

- Optimum voltage in the 132 kV distribution grid
- Load-flow control e.g. for the prevention of transit flows through the 132 kV distribution grid
- No need to transform power on two levels, 380/220 kV and 220/132 kV, thereby reducing transformation losses and cutting investment costs.

The required setting range for linear and phase-shifting transformers was determined on the basis of grid analyses covering all relevant load and outage scenarios. According to the results, active and reactive power can be set largely independently of each other via the relevant transformer tap. The transformer is configured in two separate vessels. The selected solution - three - phase main autotransformer, linear regulation at neutral point and phase-shifting regulator in separate vessel - ideally meets network operating needs in terms of regulation range, flexibility and reliability. Moreover, this two-vessel solution has the advantage that the main transformer can also be operated without a phaseshifting-regulating unit. An electronic voltage regulator automatically sets reactive power via the transformer taps such that the voltage in the 132 kV grid is optimally supported in the event of load fluctuations. The measured value for automatic voltage regulation is obtained from the 132 kV busbar. The flow of active power is set from the central BKW grid control centre in Mühleberg.

The advantage of introducing 380/132 kV transformation is that it significantly reduces the loading on the existing 380/220 kV grid transformation system, thereby substantially increasing transmission capacity at Switzerland's northern border.

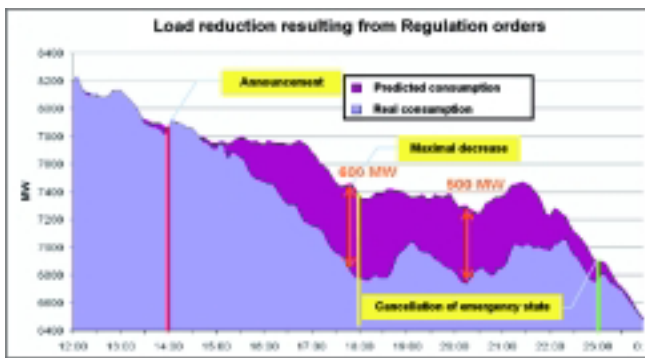




Disturbance in the Czech Transmission System on 25 July 2006

The transmission system of the Czech Republic was prepared in a standard and routine manner in conformity with the n-1 rule for operation on 25 July 2006. However, the situation in continental Europe was influenced by extreme heat with no wind (33.5°C at 9 a.m.) causing a demand that was 10% higher than forecasted for the long term, due to problems with cooling water temperatures at the generation side and increased stress on some elements of the transmission infrastructure. Also the patterns of energy flows were influenced by a changed topology in the UCTE system and constraints on the generation side in a few countries.

These factors caused overload and disconnection of the V415 line at 11:12. At 12:01, another line tripped as a consequence of rupture of one conductor of the triple-bundled phase line, and, by cascading effects, 2 more lines tripped within 6 minutes. The first island operation began with the surplus of approximately 1500 MW, but within a few minutes the frequency-speed control managed to decrease the frequency, and the island was resynchronized. However, a fire on the HF coupling choke caused tripping of another line, followed by a flashover on another line, and splitting of a busbar connection in the substation caused a second islanding (13:03 – 13:30). This time, the power surplus was greater (2400 MW), and reconnection took half an hour. Following these events, the decision of State of Emergency was taken by CEPS, allowing to control generation and consumption beyond the frame of business contracts without any financial compensation. However, the stressed operation, flashovers and overloads caused two more islanding events before the measure took effect and allowed a decrease of consumption by 600 MW. From 3 p.m., the lines and generation units were reconnected step by step. By 11 p.m., the situation turned to normal and the State of Emergency was called off.

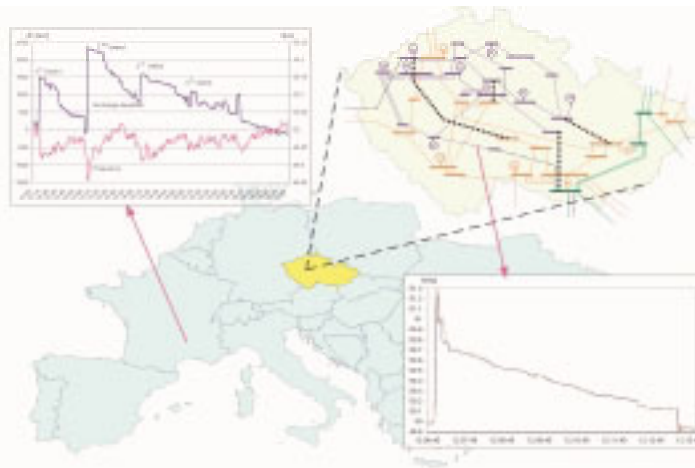


During the event, emergency deliveries amounting up to 1300 MW from Germany, Poland and Slovakia were executed according to emergency contracts, which helped to overcome the situation which was the most severe one that occurred during the last three decades. The maximal instantaneous power imbalance with regard to UCTE reached nearly 2400 MW.

Impacts of Disturbance on the UCTE system:
 Maximal unintentional exchange deviation ~2386 MW
 Stationary frequency deviation - 185 MHz

Conclusion

The investigation report prepared by the Czech Ministry of Industry and Trade, the Regulatory Office and other parties stated explicitly that the control of the system was executed professionally during the event and without any faults by EPS. Electricity deliveries were not interrupted for any single customer in the Czech Republic despite the generation curtailment and demand reduction of large customers by some 600 MW, in accordance with the “emergency regulation orders”.



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