

CRE's communication of 17th April 2008

Results of investigations into record high electricity price peaks on Powernext Day-ahead Auction in October and November 2007

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1 SUMMARY

Background

In October and November 2007, electricity prices hit record highs on the Powernext Day-Ahead Auction trading platform. While, during the first nine months of the year, prices for delivery between 6pm and 8pm averaged €36 /MWh, rising to a maximum of €118 /MWh, they spiked at:

- €1,236 /MWh for delivery on Monday, 29th October 2007 between 6pm and 7pm;
- €2,500 /MWh for delivery on Monday, 12th November 2007 between 8pm and 9pm;
- €1,762 /MWh for delivery on Thursday, 15th November 2007 between 6pm and 7pm.

Day ahead prices of electricity have a major effect on the procurement costs of suppliers, and consequently on the formation of selling prices to end consumers.

In this context, and in application of its duty to monitor the electricity wholesale markets, CRE has undertaken an investigation to analyse the mechanisms underlying the formation of such high prices. To this end, CRE gathered information relative to decisions taken by the companies in the French wholesale market and questioned seven companies with regard to their actions during the period in question.

Conclusions

CRE concluded at the end of this enquiry that the demand and supply balance situation favoured the appearance of high prices throughout the period under study. The price peaks resulted from market players' expectations regarding the state of tension of the French system. They were caused by concomitant supply reduction movements and / or increases in demand on Powernext Day-ahead Auction. CRE did not identify any individual behaviour aimed at causing these price spikes.

However, CRE has identified several factors which favoured the appearance of these prices:

- EDF's method of offering its hydraulic production on the day ahead market displays some inefficiencies;
- the operational methods of some members of Powernext Day-ahead Auction diminish their reactivity, particularly during weekends;
- the forecasts for the availability of generating capacities published by the UFE (French Electricity Union) are incomplete and unreliable;
- improvements can be made to the application of Powernext procedures for inducing additional offers;
- the mechanisms for allocation of interconnection capacities do not permit all the interconnections to be managed efficiently.

Recommendations

At the conclusion of this investigation the CRE asks:

- all the main actors of the wholesale electricity market, especially EDF, to improve their internal procedures for market intervention, so that their actions are a faithful reflection of the state of their portfolio;
- the UFE and its members producing electricity to improve the reliability of the generation forecasts published on the RTE site and in collaboration with the CRE, to supplement these publications so as to allow the market actors to anticipate correctly the situation in the French market;
- Powernext to improve the procedure which is followed when the Powernext Day-ahead Auction price does not seem to reflect the market situation, specifically by coordinating with the Belgian and Dutch exchanges;
- RTE to accelerate the installation of more efficient methods for allocating interconnections transport capacities.

Consequences to the investigation

The CRE considers that it obtained all the information it required for its analyses without resorting to sanctions or formal demands as provided for by article 40, § 3 of law n° 2000-108 dated 10th February 2000. It does not therefore deem it necessary to open a formal enquiry as understood by article 33 of that law.

The CRE will make sure that its recommendations are applied, in order to ensure that the malfunctioning observed does not recur.

At the end of this investigation, in view of the information obtained, the CRE considers that the behaviour observed is related to the exceptional circumstances prevailing and does not justify the matter being referred to the French Competition Authority by the CRE President.

A number of commitments have already been made by some of the interested parties. For example, EDF has undertaken to improve the daily valuing process of its production capacity, especially hydraulic. Furthermore, the *User guide* published since February 2008 by Powernext includes several of the recommendations set out in this statement.

This investigation shows that monitoring allows the identification of concrete routes for improvement of the French wholesale electricity market.

2 DETAILED CONCLUSIONS AND RECOMMENDATIONS

2.1 Overview of the balance between demand and supply in the French market

Conclusions

Between 22nd October and 23rd November 2007, supply and demand on the French market was under great pressure.

Due to temperatures falling lower than the seasonal average, domestic consumption was high, reaching levels well above those for the previous year. Between the beginning of October and mid-November 2007, demand was, on average, 10% higher than that observed for the same period in 2006.

In addition, generation capacities were under pressure: the availability of nuclear power capacities was minimal and subject to serious uncertainty, and the hydraulic situation was particularly unfavourable.

Lastly, on the 15th November, notification of strike action at EDF amplified market concerns about the availability of France's production facilities.

The high price of supplies activated by RTE in the Balancing Mechanism, together with messages sent out by RTE, relative to a shortfall in supply for the three days in question, confirm the pressure on the French market over the period.

The situation was also under pressure in neighbouring countries, notably in Germany and the United Kingdom.

The overall situation in the French market was therefore favourable to the occurrence of high prices.

Nonetheless, while the price spikes of 29th October and 15th November occurred at the daily peak of consumption, that of 12th November was observed for an off-peak hour, during which the physical market situation was not especially tense.

2.2 Formation of price spikes on Powernext Day-ahead Auction

Conclusions

On 29th October and 15th November, expectations of high tension of the supply and demand physical balance of the French system, shared by all market players, led to the creation of price spikes.

On the other hand, the price spike of 12th November, which occurred for an off-peak hour, seems to have been caused by incorrect expectations. Market players do not appear to have anticipated that the physical balance of the French system would be under strain. This led them to sell large quantities on the futures markets of neighbouring countries: they thought that they would be able to procure energy for delivery on the French day ahead market, at moderate prices. This behaviour led to a significant increase in demand without price conditions on Powernext Day-ahead Auction and generated the price spike. Furthermore, it appears that because of the non expectation of very high prices during off-peak hours, the usual practices of some producers did not lead them to offer all their production on the market, which thus also contributed to the appearance of tension on Powernext Day-ahead Auction, unconnected with the true situation in the French electricity system.

However the CRE did not identify any individual behaviour aimed at causing these price spikes.

2.3 Valuing of generation capacities

Conclusions

EDF Group, through the interventions of EDF Trading, did not offer the totality of its available production capacities, especially hydraulic, on Powernext Day-ahead Auction on 12th November 2007 between 8 pm and 9 pm.

The analysis conducted by the CRE shows that this situation has its origins in the EDF Group's daily decision-making process. When EDF anticipates especially low prices, the producer does not offer, outside peak periods, all its generation capacities that might be demanded if prices were higher. For

12th November at the hour of the price spike, EDF teams did not think it was useful to offer on the market all the hydraulic production available.

Simulations prove that if all EDF production capacity which was offered at the daily consumption peak had also been offered on Pownext Day-ahead Auction at the hour of the price spike, the price spike would have been avoided.

Recommendations

Pownext is an essential link in day ahead electricity price setting. The majority of volumes exchanged on the French day ahead market are negotiated on this platform. The main players in the French wholesale electricity market are present each day. These players suspend all activity on the bilateral market between orders closing time and the time when price auction results are communicated.

Furthermore, the day ahead Pownext prices play a decisive role in price setting on the French futures market. These are the essential component of the procurement cost of alternative suppliers. It is therefore essential that Pownext prices are representative of the French market situation.

The representativeness of these prices is mainly connected to an adequate valuing process of their flexibility by producers based in France.

On this count:

- CRE requests all French-based producers (and especially EDF, given the predominance of its production capacity) to post on Pownext their daily valuation of their production capacity, whether upwards or downwards, as it is known when bidfiles close. This kind of practice would require EDF to improve its internal daily optimisation process so as to offer all its generation on the market, including cases of expectations of high prices or during weekends;
- Obviously this practice does not prevent the valuation of all or part of this flexibility on other market places in France or elsewhere, before the French exchange closes or after publication of the fixing results;
- The valuation of this flexibility should be subject to an order portfolio which is distinct from the other operations of these companies.

2.4 Preparation of orders by members of Pownext Day-ahead Auction

Conclusions

At weekends, the low numbers of market players' trading personnel can affect market prices for the following Monday. Traders may be more likely to take the wrong decisions or fail to respond adequately to changes in the market situation.

In addition, constituting and closing the order book and setting the price is part of a daily operational sequence subject to numerous constraints related to time: cross-border nominations, price fixing on European exchanges, closing for VPPs declarations, etc. These constraints mean that members have to enter complex order data in a matter of minutes. Notwithstanding, CRE observes that orders sent to Pownext by certain market players during the fixing days dealt with in the analysis contained some obvious errors. These errors have been detected by Pownext as part of its control procedure and have since been corrected. If this were not the case, they may have affected price formation.

Recommendations

- CRE requests all members of Pownext Day-ahead Auction to attempt to check and send their orders before the order books close. This request applies especially to quotations taking place on weekends;
- In order to ensure that this recommendation is followed, CRE asks Pownext to send every month the list of members who have sent their orders after the contractual time of closing order books.

2.5 Generation data published by producers members of the UFE

Conclusions

Forecast information relative to availability of nuclear generation capacities issued by EDF and published on the RTE website since mid-August 2007 for the three days on which prices hit record highs were consistent with the information EDF had at the time of publication.

Nonetheless, the forecast data did not enable the players to accurately predict the risk relative to unplanned unavailability. In fact, in application of the rules adopted by UFE, forecast availability published for thermal power production facilities only factors in plant outages which are known in advance. This principle is designed to make the published data as objective as possible, but results in systematically overestimating forecast availability compared with actual availability.

In addition, the occurrence of an obvious data entry error made by EDF on one of the days during the period in question, together with the occasional absence of data furnished by certain producers, indicates that UFE's publication process is not reliable enough.

Lastly, the data published, and especially data relative to levels of hydraulic reservoirs, are not supported by records that are long enough to be used in forecasting pressure on the French electric power system.

Recommendations

- CRE asks RTE to install a producer warning system based on monitoring of the consistency of data provided by the UFE with the data possessed by RTE in the framework of the producers' contracts with RTE, especially the projected schedules for shut-down of power stations. In that way the producers, who remain responsible *in fine* for the published data, will be in a position to correct any errors;
- CRE asks RTE, when data is not supplied by a producer, to mention this explicitly on its Internet site, as well as the replacement value used in the publications. This improvement point had already been identified by RTE and the UFE, who have undertaken to implement the necessary modifications;
- CRE asks the UFE to mention clearly in French and English on the RTE website, the method of calculation of the published projected data. In particular, it should be stated that the forecasts of availability published on a given date only takes into account the unavailabilities which are certain to occur, and that it does not integrate any evaluation of the risk of unplanned outages.
- CRE asks the UFE to publish additional data which could allow the players to anticipate correctly the unexpected unavailable capacity of the different fields of production, especially nuclear;
- CRE asks producers members of the UFE to implement all the controls which are necessary to totally reduce the errors and lack of updates which sometimes affect the accuracy of the published projected production data;
- CRE asks producers who are members of the UFE to publish historical data which are significantly longer than those available at present, especially for data relating to the levels of hydraulic reservoirs.

2.6 Procedures launched by Powernext to encourage the submission of additional offers (Request For Quotes – RFQ)

Conclusions

When there is any risk that orders transmitted by members of the Powernext Day-Ahead Auction will lead to a price that will not reflect the market situation accurately, Powernext initiates a “Request For Quotes” (RFQ) procedure. Powernext then informs the members of the situation for the hours in question and allows them to change their order books after the normal order-closing deadline. This is a highly sensitive procedure, since it provides market members with privileged information.

Analysis of the procedure applied by Powernext on 11th November 2007 shows that its implementation was inappropriate given the market situation: the formalities of the procedure were barely respected and insufficient numbers of market players were contacted.

Furthermore, the preliminary test performed by Powernext to decide whether or not to launch an RFQ needs to be improved. The fact that certain members only submitted their order books at the last moment, together with the potential impact of imports related to market coupling, seem to have been inadequately taken into account.

Lastly, the RFQ procedure was not organised in conjunction with other energy exchanges involved in the market coupling, whereas there was available import capacity from Belgium. Only certain members of the French exchange were contacted, thereby reducing the potential impact of the procedure.

Recommendations

- CRE asks Powernext to consult all the members of Powernext Day-Ahead Auction systematically during RFQ procedures.
- CRE asks Powernext to formalise the procedure by e-mail. The messages sent to members should mention all the elements necessary for members to evaluate the actions which should be taken, particularly the additional time granted for closure of quotes.
- CRE asks Powernext to install as soon as possible the tools and procedures required to take account of the effects of market coupling in the decision to proceed with RFQs.
- CRE asks Powernext to propose to Belpex and APX to set up a common, consistent RFQ procedure, which will allow all the members of the three exchanges to have the same information and the same possibilities for modifying their orders at the same time.

2.7 Allocation of interconnection capacities

Conclusions

The mechanisms currently used to allocate interconnection capacity are not conducive to effective management of all interconnections. As highlighted in the CRE’s first report on management of the use of grid interconnection in 2006, published in May 2007, these methods result both in underused interconnection capacity and also, occasionally, use that counteracts the price differential between interconnected markets.

For example, at the time of the three price spikes on the French market, while prices on the neighbouring organised markets were all, except for Belgium, much lower than on Powernext, a substantial volume of import capacity remained unused at the borders (a total of 8,324 MW on 29th October, 6,624 MW on 12th November and 2,925 MW on 15th November).

Establishing efficient allocation methods, and, in particular, market coupling for all French interconnections, would have made it possible to take advantage of cheaper supplies from abroad and thus kept prices on the French market down.

Recommendations

These price spikes confirm the importance of implementing efficient methods of interconnection management. In this respect, the projects now being developed within the f "Central-West Europ" regional initiative grouping France, Germany and Benelux - setting up of a unique bidding office to allocate products at long and medium term and "flow-based" market coupling - should considerably improve the use of interconnections in this region and make a significant contribution to price convergence.

In this respect, the CRE asks RTE to do its best to:

- accelerate the implementation of these two projects;
- extend these mechanisms as soon as possible to the three other regional initiatives in which France is participating.

Signed in Paris, 17th April 2008

For CRE
The President

Philippe de LADOUCKETTE