

Deliberation of the French Energy Regulation Commission on 10 May 2012 informing about the electricity price spikes of 9 and 10 February 2012

Present: Philippe de Ladoucette, Chairman, Olivier Challan Belval and Jean-Christophe Le Duigou, commissioners.

Pursuant to the provisions of Article L. 131-2 of the French Energy Code, the French Energy Regulation Commission (CRE) “*monitors electricity and natural gas transactions carried out between suppliers, traders and producers, transactions carried out on the organised markets as well as cross-border trades. It monitors the consistency of the offers [...] made by producers, traders and suppliers [...] with their economic and technical constraints*”. This surveillance mission now falls within the framework of the European regulation REMIT on the transparency and integrity of energy markets. Entered into effect on 28 December 2011, REMIT prohibits market manipulations and insider trading in wholesale energy markets.

As part of its wholesale market monitoring mission, CRE systematically analyses occurrences of electricity and gas price spikes. This deliberation reports on the work carried out on the electricity price spikes that occurred in February 2012.

On Thursday, 9 February, the price of electricity on the French spot market reached € 367.60 /MWh in the base load and € 627.60/MWh in peak load. The following day, these prices stood at € 147.30 /MWh and € 192.20 /MWh respectively. These prices were set within the framework of spot auctions carried out at D-1, i.e. Wednesday 8 and Thursday 9 February. On several occasions, the hourly prices exceeded the threshold of € 500 /MWh, triggering for these two days a second auction procedure otherwise known as second fixing. For delivery on the 9 February in particular, the prices approached € 1,000 /MWh for several hours in the morning, even reaching € 1,938.50 /MWh at 10.00 a.m.

These very high prices occurred within a specific climate context: from 1 to 13 February, France, and Europe in general, experienced a cold wave, with temperatures much lower than seasonal averages.

However, only France recorded such high prices on the electricity spot market.

Consumption levels broke the record during this period: consumption at peak period surpassed the December 2010 spike for four days, from 7 to 10 February, with levels close to and even higher than 100 GW. On 8 February, i.e. the day before the price spike, consumption was at its highest, reaching 102.1 GW at the evening peak.

In addition to these contextual elements, and within the framework of its systematic analyses in the case of market events of this magnitude, CRE undertook an investigation into the reasons for these price levels. In particular, it analysed the fundamentals of the French electricity system which determined the interventions of the market participants, as well as the sequence of operations of the EPEX SPOT exchange that led to the setting of these prices.

The fundamentals of the electricity system

Forecast and actual consumption and availability

Consumption forecasts for 9 and 10 February show considerable variations between D-3 and D-1.

Peak consumption for 9 February was estimated at 94.2 GW at D-3. This estimate went to 98.6 GW at D-2 then dropped to 96.8 at D-1. Actual consumption was 99.7 GW, which was higher than the D-2 estimate.

Identical fluctuations were observed in the consumption forecasts for 10 February, which finally stood at 96.8 GW.

With regard to the morning of 8 February, actual consumption was considerably higher than the forecasts made the day before, which may have made complicated the formation of market participants' expectations for 9 February.

Availability forecasts for the reference electricity generation fleet were not significantly revised between D-2 and D-1. The availability forecast for the peak period for the reference fleet for 9 February was 96.0 GW at D-1 compared to 96.1 GW at D-2; the availability forecast for the peak period for 10 February was 96.1 GW at D-1 compared to 96.5 GW at D-2.

Actual availability during the peak period of the reference fleet for 9 and 10 February 2012 was approximately 95 GW, i.e. slightly less than the actual average availability during the cold wave that lasted 13 days (95.3 GW). The availability of nuclear power was 58.5 GW on 9 February and 57.2 GW on 10 February, compared to an average of 58.9 GW from 1 to 13 February, which corresponds to an availability rate of 93%.

Power system margin at D-1

All of the information presented in the previous section may have contributed to portraying major tension in the electricity system, leading to high price expectations, for 9 February in particular.

This analysis is supported by the estimates of the transmission system operator. Every day, RTE evaluates the margins required during the peak morning and evening periods in order to ensure that the network is secure below an acceptable risk threshold: these margins are needed to cover production uncertainties and consumption variations compared to forecasts. Throughout the cold wave, the margin required by RTE was lower than the available margin. In the evening of 8 February, i.e. after the auction for the day of 9 February, RTE evaluated the margin required for the peak morning period at 4 GW and available margin at only 2.6 GW. Such a configuration is rare and has been observed less than 1% of the time since 2009. This situation highlights a state of major tension in the system which coincided with the price spike.

Publication of unplanned outages

No inconsistency was observed within the framework of the transparency initiative of the French Electricity Association (UFE). Several unplanned outages were published on RTE's website. In the morning of 8 February (before noon), they represented a total power of roughly 1.4 GW, of which 1.2 GW was available again at the end of the day. The unplanned unavailability signalled in the morning of 9 February concerned a total power of 0.4 GW; the nuclear reactor outages on the Tricastin and Cattenom sites occurred in the afternoon of 9 February and in the night of 9 to 10 February, i.e. after the price fixing on EPEX SPOT.

Flows at interconnections

The balance between supply and demand was ensured by maximum use of most interconnections. All the interconnections that operate within the framework of market coupling were saturated. This however, did not concern the borders with Italy and Switzerland. For these two interconnections in particular, the daily mechanisms could be improved by setting up a market coupling system. In the case of Italy, the implementation of an intraday mechanism would also improve the use of this interconnection, as the case of Switzerland shows.

Analysis of EDF's behaviour

As part of its investigation, and given the dominant position of the incumbent player, CRE systematically examined the behaviour and operational decisions of EDF and its trading subsidiary EDFT.

The calculations of EDF's residual capacity (i.e. the calculations of the volumes available for sale on the market) reflect a very tight system: based on the information supplied by the operator, residual capacity, after application of the "1% risk" policy of the EDF group, was nil for several hours during the most intense period. This policy leads EDF to evaluate, for its portfolio, the margin needed to bring to 1% the company's risk of having to resort to very costly or exceptional methods to meet the supply/demand balance within its scope of responsibility. The measures for implementing this risk policy reflect the modifications made by EDF following exchanges with CRE on the subject (see Monitoring Report 2009-2010¹).

The use and optimisation of production means do not raise any specific questions with regard to their economic and technical constraints. The publication of forecast availability data and unplanned outages complied with the transparency process implemented.

Sequence of operations

For the auctions conducted on 8 and 9 February (for delivery on 9 and 10 February respectively), EPEX SPOT triggered the second auction (or second fixing) procedure. As specified by the EPEX SPOT market rules, this procedure may be triggered "*if the market is in curtailment (unbalance of purchases and sales leading to out-of-scale prices) or if the auction can lead to a price that can be considered as abnormal given current market conditions (one or several hourly prices are significantly different from the other hours of the day or from the same hour(s) of a comparable day)*"². A second fixing is generally triggered when the prices exceed a certain threshold, set currently at €500/MWh.

For the auction carried out on 8 February, the average (base load) price obtained before the second auction was €350.23/MWh. This information was not published since only the definitive results of the second auction are taken into account. The final price at the end of the second auction was €367.60/MWh. This price is slightly higher than that initially obtained before the second auction.

CRE however observes that during the hours in which the prices were very high, there were larger differences between the initial results and the final results of the second auction. The way in which different members of EPEX SPOT changed their offers during the second auction led to these results.

¹ <http://www.cre.fr/documents/publications/rapports-thematiques/surveillance-des-marches-de-gros-2009-2010>

² Article 1.7 of EPEX SPOT's operational rules

As part of its investigations, CRE listened to the recordings made by EPEX SPOT during the lapse of time between the first and second closing of order books. It observed that certain members showed a lack of knowledge of the conditions for triggering and conducting the second fixing procedure.

Moreover, the examination of the modifications of different order books during the second auction show that, for several participants, the changes made could theoretically have increased the clearing price. CRE considers that the changes made by three participants in particular must be specifically examined, particularly by EPEX SPOT in light of the market rules applicable to all members of the exchange. The market rules provide that "*in the case of a second auction, only orders modifications which improve the imbalance between purchase and sale are allowed*"³. EPEX SPOT is responsible for providing all of its members with the sufficient level of transparency regarding these observations.

Under these conditions, CRE recommends EPEX SPOT to examine, in consultation with its members, the measures needed to:

- provide all of its members with the sufficient level of transparency regarding these observations;
- improve all of its members' understanding of the conditions for triggering and conducting the second fixing;
- improve, if necessary, the second fixing procedure;
- set up, if required, operational safeguards.

Conclusions

The tension between supply and demand was responsible for the high prices, in particular for the day of 9 February. The examination of actual and forecast availability and consumption data confirms this observation.

The balance between supply and demand was ensured on 9 and 10 February 2012 by the maximum use of most interconnections, with the exception of those with Italy and Switzerland.

CRE will examine all suitable follow-ups to the operational aspects mentioned above, following steps taken by EPEX SPOT.

Paris, 10 May 2012

For the French Energy Regulation
Commission,
The Chairman

Philippe de Ladoucette

³ Article 1.7 of EPEX SPOT's operational rules