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Comments concerning ERGEGS Guidelines of Good practice for Electricity Balancing Markets Integration

Introduction

The development of common European rules and regulations, to secure a common platform for trade and competition in the electricity sector, is of imperative importance. Hence, The Norwegian Electricity Industry Association, EBL, welcomes the opportunity, on behalf of our members in transmission, distribution and generation, to comment on ERGEGs proposal on good practice for electricity balancing markets integration.

Our understanding of ERGEGs intentions is that the proposed guidelines are not to be regarded as mandatory rules but are meant as guidance in order to facilitate the development of more common rules for balancing handling. These guidelines will then form the basis for future binding rules within EU regulation. The proposed guidelines are therefore a first step in elaborating common rules for balance handling. We support such an approach.

Due to the short timeframe of the public hearing and the fact that the hearing period is during the Norwegian summer vacation period, we have not been able to process our comments with our member companies in a satisfactory manner. These comments should therefore be regarded as preliminary. We have initiated a process concerning this important issue and our views and comments will be further elaborated with possible alterations at a later stage. In agreement with Mr Kyriakos Gialoglou, we will submit our final comments no later than august 17. 2006.

General comments

An efficient utilisation of resources in the electricity sector is important for the European economy. The electricity sector is very capital intensive and generation of electricity tend to have large environmental impacts. Thus, it is important to utilise the power stations in the

most efficient manner. With several thousand power stations in Europe, and even more consumption units, the most efficient vehicle for steering towards an efficient allocation of resources is competitive prices. However, prices for settlement and prices paid for ancillary services are in general, not comparable and not suitable for competition between European countries today, except for some similarities in the Nordic market. These differences are only to a limited extent due to transmission constraints. Lack of integration is the major reason. Integration of balancing markets is therefore the next major step for improving efficiency in the European electricity sector at large, not only concerning the procurement of manually activated power reserves, but ancillary services in general.

There are several differences in the services required and the services available to TSOs across Europe, due to dissimilarities in the different systems (i.e. size and inertia of the systems, AC vs. DC interconnections, availability of secondary control, type of generation connected to the grid etc.). It is therefore not obvious that all balancing services can or should be harmonized. If a certain service in a certain area can not efficiently be settled in a market, e.g. because of only one potential supplier, it might be better to establish other solutions e.g. negotiated contracts. It is probably more important that the organising of provision of ancillary services and the conditions for settlement of imbalances do not prevent new entries to the market or in other ways support concentration at the supply side in the day-ahead and forward markets.

Some physical requirements and aspects of product definitions are clearly less important than others, but may have significant economic impacts. To our knowledge, some TSOs in Europe generally require that both AGC-resources and manually reserves must be physically controlled by the TSO and located inside the control area of the TSO. Resources on the other side of the borders will therefore not be qualified. This implies a lower competitive pressure for the resources located inside the control area. We believe that the cost of changing such rules would be much lower than the potential benefit from increased competitive pressure.

Different practises will create different economic conditions between countries that may influence operation and/or investment decisions. When elaborating common rules for balancing handling, it is in our opinion important to secure that correct incentives are given in order to secure well functioning markets and security of supply.

In our opinion, the proposed guidelines give a good introduction of the issues at hand and outline important principals that must be taken into consideration. We do however believe that the proposed guidelines are of such general character that they will not be very helpful in speeding up the process of establishing integrated balancing markets throughout Europe. In order to do so the guidelines must be further developed and specified in much greater detail, giving specific provisions on the particular rules to be followed by regulators, TSOs and market participants. In our point of view common rules for ancillary services are important, not only procurement of manually activated power reserves. We therefore urge ERGEG to follow up this important process with the future goal to make detailed guidelines and common rules for procurement of all ancillary services. In the following, we will elaborate on some of the issues we believe to be important and issues that should be specified in more detail.

We also take the opportunity to stress that harmonisation must be used as a mean to achieve the goal, which should be integration of markets (facilitating economic efficiency). Integration does not follow automatically from harmonisation – thus integration must be encouraged by other means as well.

Harmonisation - terminology

Without significant technical knowledge of the different systems in Europe, it is hard to distinguish between physical and technical differences in “product design” for all the various balancing services. To some extent, the differences may reflect different physical characteristics of the various systems and different needs and possibilities. On the other hand, the differences will most likely reflect different traditions and ways of doing things in the various countries. There is a general experience that it often would be possible, without major complications, to change the way of doing things and thus change the physical product definitions – if desirable from a technical and economical point of view. Willingness to change is, however, not always abundant, hence the need for common European rules and regulation. A prerequisite for future integration is therefore to scrutinize the different systems in order to seek similarities and work out a common terminology that can be implemented in future legislation, provisions, guidelines and contracts.

Economic principles

From an economic perspective, it is natural to focus on how TSOs procure the ancillary services, and how imbalances financially are settled. We find it useful to regard the purchase of ancillary services separate from the settlement procedures and pricing of imbalances.

Procurement of service

There are a number of differences in both the technical and the economic details of the various arrangements for provision of ancillary services of various kinds. From an economic perspective, it is possible to identify some best practice arrangements. The following bullet points are an attempt in that direction.

- Participation should be voluntarily and open for both generation and load, if possible. Broad participation contributes to competitive prices, which is important to establish and maintain confidence in the electricity sector. Voluntary participation helps avoiding unnecessary burdens and discrimination, and creates a sound basis for a contestable market.
- All services should be paid services. Voluntarily supply might not always be feasible, but some form of payment is always possible. Mandatory and unpaid services might create unexpected negative incentives for (potential) investors. Generators have income from more sources than spot markets, such as sale of ancillary services. In this perspective, balancing mechanisms and other arrangements represent important remuneration to generators, contributing to profitable investments.
- Prices (payments) should be set in markets whenever feasible. If participation is or can be open for both generation and load, and if there are more than one generator with relevant resources available, the conditions for creating a market based system is generally in place. If market based remuneration is impossible, in any variant, the remaining alternatives are negotiations (bilateral or multilateral contracts) or regulations. Which of these are the best, can not be said on a general basis. In a European context, it is hard to imagine a fair and efficient negotiated setup to be followed by a number of different authorities/TSOs, thus suggesting a regulatory approach if a market-based solution is impossible.
- The period for the market and the definition of “one unit” in market transactions must be tailored to the actual service in question, the cost structure of providing the service, and the TSOs need for long-term security and predictability.

- The market setup and remuneration should distinguish between availability and actual delivery. The economics of being idle for delivery is generally different from the consequences of the delivery itself.
- The use of pay-as-bid auctions should be avoided. A fundamental fact in economic theory is that the optimal allocation of resources will result only if all suppliers in a market bid according to their own marginal costs. Pay-as-bid auctions encourage bidders with relatively low costs to submit bids above their own marginal costs. The reason for this is as follows: All bids except the highest accepted bid will receive a payment smaller than they would have got if a marginal bid auction were employed. As pay-as-bid auctions are repeated, the infra-marginal bidders (which presumably have the lowest costs) will learn to increase their bids towards their estimate of the marginal accepted bid. However, when this strategy fails, bids from one or more low cost producers will be rejected, and resources with higher costs will be employed. This violates the fundamental condition for an optimal allocation of resources. Furthermore, pay-as-bid auctions cannot reduce the societal cost of providing a service as compared to a marginal bid auction, even though the TSO may pay less with pay-as-bid.¹

Settlement of imbalances

For design of settlement systems, there are less technical requirements to consider compared to the design of systems for provision of ancillary services. Thus, from an economic perspective, some aspects of best practise can in our point of view be outlined.

- Settlement systems should be tailored to minimise the societal costs of balancing the electricity system. Single imbalance pricing, where the price is determined as the marginal cost of balancing actions at the hand of the TSO is the only system that ensures socioeconomic correct price signals to the balance responsible parties. Dual imbalance pricing can make it attractive to keep some flexible resources away from the balancing mechanism in order to do self-balancing. Average pricing the services purchased via pay-as-bid auctions will tend to yield prices that are lower than the societal cost of imbalances, thereby increasing the size of the imbalances.
- While the use of several accounts hardly brings any benefits, it should be avoided. The costs for the system are based on the net imbalance volume for all accounts in the system, not the gross volumes. Two or three accounts per participant tend to exaggerate the cost for the balance responsible. It is not a good idea to increase costs administratively, as it will lead to inefficient competition.
- Whether there exist (or is possible to find) an optimal frequency for settling accounts, e.g. 15, 30 or 60 minutes, is not clear. Presumably, it is more a pragmatic question about finding a practical compromise between creating optimal price signals reflecting the costs of providing ancillary services, and minimising the administrative costs of the systems.

¹ Pay-as-bid auctions aim at reducing the producer surplus for the benefit of the buyer(s). If reducing the producer surplus is an important issue, it can more efficiently be done by taxation, such as the Norwegian resource rent tax on hydropower production.

Harmonisation and integration of balancing markets

The following bullet points highlight in our point of view important steps for a successful integration of balancing markets.

- Technical performance is of utmost importance for electricity systems. No TSO, and likely very few stakeholders (if any) would welcome a proposal of reducing the current standards unless proven to be the best societal cost effective solution. Imposing higher standards than needed in the different systems would lead to unnecessary investments, increased costs and reduced efficiency. Thus, the standards implemented between each control area should be based on harmonised minimum standards. Currently standards for system operations are largely harmonised within UCTE, and within Nordel. Further harmonisation of technical standards for both system operation and requirements for participants in the markets for ancillary services should be carried out where appropriate.
- If some TSOs prefer to employ a prequalification procedure, this can continue but need not necessarily be harmonised. However, such prequalification must be strictly objective, serve an obvious and well-understood purpose, and should not discriminate resources located in other control areas and create technical barriers to trade.
- Equal requirements for participating in the markets for ancillary services can be important for efficiency, but is not necessarily a prerequisite for cross border markets to function. The major consequence of different participation are probably reduced liquidity and lost opportunities to improve efficiency.
- The TSO's requirements for participating focus on i.a. ramp-up and ramp-down rates, timescales, format and content of notice to deliver. Compatible requirements, which in our opinion are important to achieve integration, does not imply equal requirements, but that the various requirements do not conflict with each other. However, different requirements for the same type of services would lead to discrimination between the different markets participants supplying the same services.
- Markets are always distorted if some participants are discriminated, positively or negatively. Distorted markets are inefficient. Thus, remuneration schemes for provision of ancillary services must be equally fair. The best would obviously be if both the principles and the actual payments were equal for exactly equal services. The major distinction between remuneration principles is probably the use of pay-as-bid and marginal bid (market clearing price). As argued previously, pay-as-bid is not recommendable in the electricity market. Thus, integration and harmonisation should lead to less use of pay-as-bid, in favour of increased use of market clearing price.
- Payment schemes should have one component for capacity and another for utilisation.
- The criteria for selection of bids should preferably be equal. If the above recommendation of two level prices is followed, it follows from economic theory that the optimal selection criteria, in perfect markets, is to first select the bids with the lowest capacity payments (with due attention to location) and then, at the time of activation, among these bids, select those with the lowest activation (energy) price (and again with due attention to location and major technical issues). Different selection criteria will yield lower efficiency, but will not prevent the technical aspects of integration.
- There should be a clear distinction between required location and minimum quantities for each control area, and how much each TSO should be responsible for purchasing. Organising single buyers in all areas is not automatically optimal. It would be

preferable if each TSO could search the whole market for attractive resources. However, the minimum quantities that must be available within each area must be satisfied.

- Each TSO should be responsible for the provision of a “fair” share of the total necessary ancillary services. This share can e.g. be set in relation to the total volume of production, eventually considering the predictability of the production².
- Each TSO should be free to purchase ancillary services wherever the best bids and offers are to be found.
- Areas that for some reason need large volumes of services but have few or expensive resources available, will tend to import ancillary services. Areas with relatively lower “consumption” of ancillary services and ample resources available will tend to export services. This will inevitably lead to higher costs for ancillary services in the exporting country and reduced costs in the importing country, increasing the economic surplus for both countries.
- International cooperation along the lines sketched above requires available transmission capacity for the exchange of ancillary services. Currently, there is some capacity on some interconnections reserved for ancillary services. In an optimal market, the fraction of the capacity that should be used for ancillary services (where the rest is used for exchange settled e.g. in a day-ahead market) will not be constant, but varies depending on the differences between market prices in each area. If and exactly how this fraction should be settled is not clear. It is recommendable, if possible, to design a system where the two “purposes” compete and thereby optimise the use of the available transmission capacity.
 - Even though it also is possible to design a system where balancing market participants acquire transmission capacity when bidding into a balancing market on the other side of the border, it is hardly possible to achieve optimal utilisation of transmission capacity that way. One should think more in the terms of market coupling, as indicated above.
 - ERGEG states that a certain amount of capacity could be reserved for balancing purposes by the TSOs. Consistent with our view on optimal utilisation of transmission capacity, we would advise against such a practice.
- An integrated balancing market allowing for cross-border trade of ancillary services require strict rules for setting, and changing, the transmission capacities. First, network security calculations must be updated often. Secondly, the rules must specify exactly under what conditions one TSO can reduce the transmission capacity in order to protect his own networks or his own congestion management costs or challenges.
- Balancing markets can most likely be exposed to market power, exactly as the bulk markets are. The balancing markets and the systems for settlement of imbalances may play an important role in sustaining market power possibilities some players enjoy in the bulk markets today. Successful integration therefore calls for careful attention to the issues of market power, and a clear and expedite regulation to prevent exploitation of market power.
- ERGEG (2006)³ at pages 11 and 12 lists further topics important for integration (Operation of balancing mechanism and market, and Regulation and governance).

² If country A and B have annual generation of similar size, but A has e.g. 10 % wind (and B has 0 %) and the rest of the generation mix is equal, country A is likely to “generate” a higher need for ancillary services.

³ ERGEG (2006) – The Draft ERGEG Guidelines of Good practice for Electricity Balancing Markets Integration (July 2006).

Topics covered here are a kind of a “super-TSO”, data exchange issues, cooperation between regulators, etc. We fully support the need for further scrutiny of these issues.

This concludes our preliminary comments to the proposed guidelines. If there are any needs for further clarification or discussions regarding our comments, please do not hesitate to contact us. As earlier mentioned EBL has started a process concerning this issue and we will be grateful for the opportunity to further comment on the issue at a later stage.

Best regards
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