

## **Auctions for Energy and Firm Capacity Certificates – Management of Purchaser Risk**

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### **Summary**

The rationale for the auction mechanism is to provide long term secure revenues to new generators to guarantee the financing of new capacity to meet the security of supply requirement. In order to do so, the resulting contracts make Load Responsible entities (LRs) bear the market risks. However, any market risk problem for the LRs in turn becomes a credit risk for generators, with potential damaging impact on their willingness to enter the auction.

While the current problem is a potential shortage of capacity, the mechanism needs to be examined in relation to possible shortage of demand (for some LRs); there are two possible market risks in this respect:

- o Total demand may turn out to be too low
- o Demand for some LRs may be less than their contracted volume, associated with a low realization of actual demand, eg due to losing eligible customers.

The latter risk may arise from a combination of an LR being unsuccessful at holding on to its eligible consumers or from the more general problem of the lowering of the threshold for eligibility for all consumers, which will happen over the next few years. The risk here is that LRs are being required through auctions to take on long-term energy and capacity purchase obligations but they are then selling to consumers under contracts with a much shorter term. The possibility of losing a large proportion of customers poses a serious financial risk to LRs, and may even make them reluctant to participate in auctions to the point of distorting their demand declarations, which would defeat the purpose of the auctions.

We have proposed an additional mechanism in the Auction Regulation called the Contract Reallocation Mechanisms (CRM) to deal with these market and purchaser risks. The CRM reallocates auction contracts on an annual basis from over-contracted LRs to under-contracted ones, thus reducing the risk of any LR being left with a contract for energy and FCCs that it cannot sell on to consumers. At the same time, the generators are assured that their total contract quantity sold through the auctions is held by LRs that have adequate demand, thus mitigating some of the potential credit risks.

However, the risk of total demand failing to materialise cannot be addressed by the CRM. In this case the LRs may not be financially strong enough to bear all the market risk. There are five possible approaches to dealing with this market risk problem:

- o Transfer all (or part of) the risk to generators
- o Transfer the risk to eligible consumers that leave LRs

- o Transfer the risk to the government
- o Transfer the risk to consumers who choose not to leave the LRs
- o Spread the risk among all consumers.

All these solutions have drawbacks and should be approached with caution. However, it must be remembered that the Auction Regulation has been designed to address an underlying high level of demand growth and so the risk of creating unwanted generation is likely to be a short-term issue. This is why the Auction Regulation concentrates on resolving the risks posed by individual LRs becoming distressed through these auction contracts, which is what the CRM does.

### **The problem of over-contracted LRs**

The auction mechanism is proposed to provide long term secure revenues to new generators to guarantee the financing of new capacity to meet the security of supply requirement.

The provision of secure revenues to the generators requires that some other entity or market participant bears the risks associated with a low realization of actual demand when the contracts become operative (ie four or five years after the corresponding auctions). This risk is made worse by the further risk that the new generation sold in auctions may be more costly than established generation that has already paid off its cost of finance.

The proposed Auction Regulation leaves this risk entirely in the hands of the purchaser (ie the Load Responsible Party, or LR). This fact, associated with the elimination of the limit for loads to become eligible (which will happen in the near future), has some consequences that may affect the success of future auctions.

One possible undesirable effect is that LRs might produce unrealistically low demand forecasts, in order to avoid the commitment to purchase energy that they might not need when the contracts become operative.

It is this concern and other similar ones that prompted a change in the auction regulation to the terms under which LRs must contract for long-term capacity and energy as a result of auctions.

### **The modified terms in the Auction Regulation – the CRM**

The terms put into the regulation are called the Contract Reallocation Mechanism (CRM). This is designed to address the specific issue of portfolio change over time. The process transfers sales and FCCs under contracts awarded after an auction from those LRs who are overall over-contracted to those who are under-contracted. This means that LRs who lose customers will then have an opportunity to transfer part of their auction contract obligations to other LRs who will have gained those same customers.

This will be done in an annual recalculation, based on information that must be provided anyway in order to calculate future auction gaps. This mechanism seeks to share out the costs of these specific contracts among LRs who are most able to carry that cost because they have more customers. This increases the probability that the contracts can be honoured even if they are priced higher than other contracts in the market from older (and cheaper) generation.

The effect of this mechanism is that generators who win in the auction are assured of a portfolio of long term contracts with LRs and, in addition, have the opportunity to reduce the overall credit risk of the portfolio of LR contracts by the annual reallocation.

One defect of this mechanism is that it transfers the credit risk on auction contracts to LRs who are most under-contracted at the start of the year. Under-contracted LRs may be in that state because they are poor credit risks in the first place and so are having difficulty signing bilateral contracts in the market. Generators who offer capacity in auctions may perceive this as an increase in their risk.

To reduce this risk, there is a second part of the mechanism in place. After each auction, generators will sign contracts with each LR buying in the auction. The CRM will, each year, change the share to be sold to each LR but the Regulation allows a generator to opt out of participation in the CRM for contracts with specific LRs. The effect of this is that a contract with an LR that the generator considers a good credit risk will be retained and it is therefore only the contracts with other LRs that will go into the CRM. This is in line with the likeliest market outcome, which is that the LRs who are the best credit risk will also be in expanding businesses in need of the extra energy.

Clearly, there are continued defects that generators might perceive in selling long-term contracts to a pool of LRs through auctions. Some LRs will inevitably be poorer credit risks than others. However, the proposed CRM clearly mitigates the risk faced by generators and will therefore make sales through auction more viable.

### **The problem of long-term purchaser risk with a fall in demand**

The proposed CRM described above, is designed to reduce the risk of LRs being exposed to long-term obligations arising from auctions but then losing their customer base to other LRs. It does not address the more general risk posed by a market that becomes over-contracted (for example due to a fall in demand).

There are five possible ways in which to manage what we call ‘Purchaser Risk’:

1. Transfer (part of) the risk to generators;
2. Transfer (part of) the risk to eligible consumers leaving the LR;
3. Transfer (part of) the risk to the Government;
4. Transfer (part of) the risk to the remaining LR consumers; and
5. Spread the risk among all consumers.

We shall deal with each of them in turn.

1. Transfer the risk to generators

This solution consists in allowing reductions in the contracts if LR demand falls.

One possible way to do it would be to allow a once-in-a-lifetime 5% reduction in auction-derived contracts

The problem with this solution is that it runs right against the rationale of the auction, which is to provide long term secure revenues to new generators.

Hence this solution has very limited application, and while it would raise the prices of the energy sold at auctions (thus enhancing purchaser risk), it would do very little in the way of solving the problem faced by purchasers.

A variant of this solution is to auction for less than the required capacity shortfall in the first place. This denies some generators an opportunity to sell at the auction but reduces the risk of the capacity not being required in the future.

2. Transfer the risk to eligible consumers leaving the LR

This solution consists in limiting the freedom of movement of eligible consumers.

One possible way to do it would be to put in place rules whereby any customer must give advance warning before leaving an LR. The advance warning could be commensurate with the size of the customers (e.g. three months for very small customers, one year for customers larger than 1 MW, three years for customers larger than 10 MW). The same would apply to customers returning to the LR (in the case of LRs considered to be providers of last resort).

Another possible way to do it would be a rule whereby any customer leaving an LR be required to “carry” FCCs corresponding to its load.

One problem with this solution is that it requires a change in rules that are outside the scope of the auction regulation.

Another problem is that even if the change could be put in place, the contracts produced by auctions become operational so far ahead (four to six years) and last so long (ten to twelve years) that limitations on the movements of eligible customers that actually reached these periods would in effect “freeze” all movements by these consumers.

Hence this solution, while severely limiting the freedom of eligible consumers, may well be ineffective, unless it is set up in such a strict way that the concept of eligible consumer becomes innocuous. In any case, the problem posed by customer movement is not one usually affecting overall demand levels and is better addressed by mechanisms such as the CRM.

3. Transfer the risk to the government

This solution consists in compensating any loss incurred by the LR with payments borne by the government.

One possible way to do it is through direct payments (subsidies). Another possible way would be to allow the use of contracts with government-owned companies as a compensation for the loss of clients.

The problem with this solution is that it potentially creates an additional expense to the government.

4. Transfer the risk to the remaining LR consumers

This solution consists in allowing a tariff raise to the consumers who remain in the LR.

One possible way to do it would be to allow the LR to raise its tariffs so that they would provide enough income to pay for contracts corresponding to 103% of its sales.

The problem with this solution is that it would raise energy prices for consumers that choose to stay in the LR, which would give them an additional incentive to leave the LR, thus compounding the problem.

5. Spread the risk among all consumers

This solution consists in having a government-owned or government-controlled entity contracting energy from the generators in the auction (instead of the LRs), and putting in place a rule whereby each LR would have to purchase energy from this entity in proportion to its demand in the preceding year, at a price that reflects the average price of all auctions. Thus, all energy contracted through auctions would be absorbed by the set of all consumers in Turkey.

Since the energy resulting from auctions should represent a predictable fraction of total demand, each LR would know in advance the amount of energy that it would have to purchase in the subsequent year, and the price it would have to pay for this energy. These quantities would be quite small after the first auctions, which would facilitate the implementation of this solution.

The main problem with this solution is that it would require the implementation of rules that are outside the scope of the auction regulation. Its main advantage is that it would spread the risk equally among all LRs, thus avoiding the creation of incentives to manipulation in the LR declarations.

These risks have been highlighted because they arise from the long-term nature of the contracts arising from auctions. However, it must be remembered that the auction only took place because there was a forecast shortage of generating capacity. In Turkey, such shortages are likely to reappear because the long-term outlook is that demand will continue to expand. Therefore, the overall risk of stranded contracts is small. This is why we have concentrated on the CRM that addresses the specific problem that individual LRs might have stranded contracts even though LRs overall remain in need of the energy derived from those contracts.

## **Conclusion**

Purchaser risk can become a serious problem for Load Responsible entities that purchase energy through long-term contracts signed several years before effective supply. Several measures can be applied to mitigate this problem. However, the CRM inserted into the Auction Regulation seeks to address the most serious risk faced, which is that specific LRs may become poor credit risks due to loss of their customer base. Employing a mechanism that redistributes contracts to those in most need of extra energy supplies seems the best mechanism for reducing the credit risk that generators are exposed to when selling long-term contracts to a pool of LRs through auctions.